

**CAMERA**

Camera Type : X-Ray Camera
 Film Type : 35mm roll film
 Manufacturer : Rokuoh Sha
 Year(s) made : 1938–1944

DIMENSIONS

Length :¹ 98mm
 Width : 133mm
 Height : 80mm
 Weight : 920g
 Serial n° : 1049

LENS TYPE

Manufacturer : Rokuoh Sha
 Type : Luminon 75mm
 Aperture : f/1.6
 Shutter : none
 Focus Settings : none
 Picture Angle : 27° horizontal
 Serial n° : 2418
 Year(s) made : ca 1938

In the mid- to late 1930s the 35mm film format, pioneered by Leica, had become popular, and a number of camera makers strove to emulate Leica's success. While several Japanese manufacturers, such as Seiki Optical ('Canon'), Riken Optical ('Gogoku'), Showa Optical ('Leotax') and Kogaku Seiki ('Nippon'), more or less copied the Leica design formula,² others, such as Rokuoh Sha (六桜社; from 1937 Konishiroku, 小西六), chose to develop an even more compact camera without sacrificing the 24 x 36mm negative format.³

The development of Rokuoh Sha's 35mm rangefinder design, the 'Rubikon,' had to be suspended when the company was ordered to give priority to the war effort. Elements of the camera, however, were adapted to develop and manufacture the Rubicon x-ray camera. After the war the initial design was resurrected as the 'Konica' 35mm rangefinder.

This document will provide a history of the Rubikon and Rubicon designs and furnish a detailed photographic documentation of an early version of the Rubicon camera.⁴

The Rubikon rangefinder design

The 35mm rangefinder camera developed by Rokuoh Sha, called the 'Rubikon' (ルビコン), never progressed beyond the concept and prototype stage. As Rokuoh Sha / Konishiroku was Japan's pre-eminent camera manufacturer its factories were needed from the late 1930s to produce cameras for the Japanese military, primarily aerial

cameras (Miyazaki, 2003, p. 14). Even though the Rubikon was never produced for the commercial market, parts of its design were used to develop and manufacture the Rubicon x-ray camera (note spelling with a 'c'). Overall, surviving examples of the various iterations of the Rubikon/Rubicon cameras are very few (Table 1).

The design of the original Rubikon camera is extremely similar to that of the post-war Konica. At least one prototype of the Rubikon is depicted in the literature. The unit, serial number 1241, is fitted with a Hexar Ser. IIB 50mm f/3.5 lens (n° 3001) which is set in a Compur-Rapid shutter (T, B, 1–500) (Hishida, 1987, p. 60 Fig 1).⁵ In almost all respects the Rubikon looks exactly like the post-World War II Konica 35mm rangefinders (see below).

The only existing image (Fig. 1) shows an angular body with a raised rangefinder housing, flanked by a somewhat recessed film advance and exposure counter knob at the right (as seen from the operator) and a recessed film rewind knob at the left. The top plate is engraved with the name 'Rubikon' as well as 'Rokouh Sha' and a serial number (Fig. 1). The lens unit of the camera seems to have been mounted on collapsible tube, similar to that of the Konica 35mm rangefinder design. The image also shows that the bottom of the camera lacks the blind wheel with the tripod socket, which is required to make the camera sit flat when placed on a level surface.

Other examples of prototypes may still exist.⁶ Indeed, Hishida (1987, p. 76) lists a version fitted

with a Hexar Ser. IIB 50mm f/3.5 lens set in a Durax shutter (1-100, T, B), but this one may be of post-World War II vintage (see below).

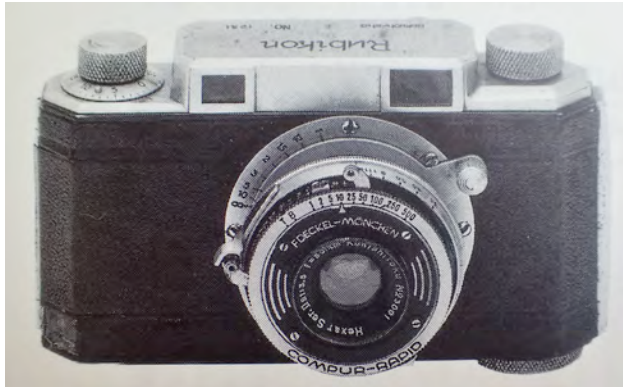


Fig. 1. A prototype of the Rubikon camera by Rokuoh-Sha, ca. 1937 (Hishida, 1987, p. 60).

Naming a camera ‘Rubikon’ will appear odd to non-Japanese, especially to classically educated citizens who will equate ‘Rubicon’ with a point of no return.⁷ Given the naming patterns of Japanese cameras of the time, however, it makes sense. Not only did the name allude to a classical theme, but it can also be seen as a deliberate word construct, comprised of ‘Ruby’ and ‘Ikon.’ The latter part is an obvious play on Zeiss Ikon, a German camera manufacturer of high public repute in Japan.⁸ ‘Ruby’ had been a brand name used by the British manufacturer Thornton-Pickard, both for wooden field cameras (1890s to 1910s) and for the large reflex cameras, which were still sold in the 1930s.⁹ In addition, the Japanese distributor Fuyodo sold ‘Rubies’ plate folding cameras during the early 1930s (Camerawiki, 2015b).

Resurrection after World War II

After World War II, the design concept for the original Rubikon rangefinder was resurrected when Konishiroku re-entered the civilian camera market.

In November 1946 the Japanese magazine *Ars Camera* published a brief introduction on the development of the Konica rangefinder as being derived from the Rubikon (Fig. 2). The accompanying illustration (Fig. 3), which is not very clear, shows a Rubikon rangefinder (with a ‘c’), and a possible body serial number of 3827. The camera appears to be fitted with a Hexar lens (with black bezel and silver trim) set in a Durax shutter (similar to the one shown in Fig. 4).¹⁰ The lettering ‘Rubikon’ indicates that the camera is a post-war

prototype using the tooling for the x-ray camera to engrave the name. The camera body shows the blind wheel at the bottom left.



Fig. 2. Discussion of the Rubikon and the impending release of the Konica 35mm rangefinder in the November 1946 issue of *Ars Camera* (Anonymous, 1946).

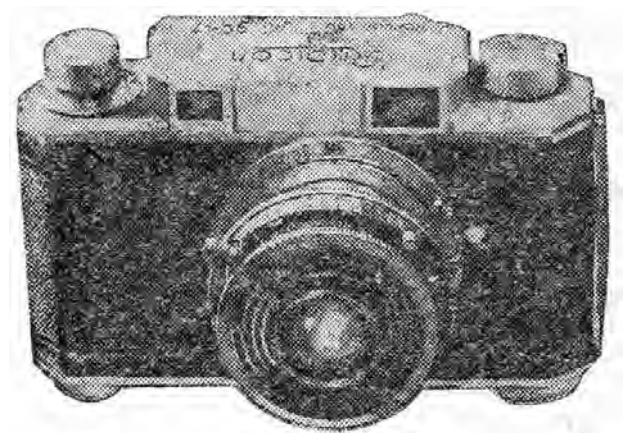


Fig. 3. The Rubikon of November 1946 (Anonymous, 1946).

When formally released in late 1946, the camera was offered as the ‘Konica’ rangefinder,¹¹ fitted with a Hexar 50mm f/3.5 set in a Konirapid shutter. The early Konica models of 1946/47 possess a Hexar lens with a black bezel set in a Konirapid shutter¹² with a black face (Fig. 14).¹³ The first large-scale run of production models uses a Hexar set in a Konirapid shutter, both with a silver face (Fig. 15).¹⁴ Sugiyama et al. (1985, p. 167 n° 3292) speculate that Konishiroku may have used some of the Rubikon Special bodies in the manufacture of these early Konica units. While this is certainly feasible, it is deemed unlike-

ly because the production of the Rubicon continued after the war. It is more likely that the same tooling was used where the camera parts were identical.



Fig. 4. Konishiroku Hexar 75mm f/4.5 in Durax shutter (in Semi-Pearl 4.5 x 6 roll film folder).

The Konica is listed among the cameras included in the Japanese price control list of 25 August 1947 (Wada, 1947a), but is not yet mentioned in the (limited) list of 5 November 1946 (Zen, 1946).

Rubicon Special

Even though the production of the Rubikon was halted, Konishiroku used the design of the Rubikon body to develop an x-ray camera, the 'Rubicon' (note the spelling with a 'c'). Since x-Ray photography occurs at a fixed distance and hence fixed focus, the body design could dispense with the range finder housing as well as the focussing mechanism for the lens. Moreover, depth of field in x-ray photography at the time was immaterial, which meant that the lens could be mounted without an aperture diaphragm. The exposure times required for x-ray photography were much longer, so that a shutter could also be dispensed with in favour of a simple dark slide.¹⁵

With its potential medical applications, the production of the Rubicon X-ray camera certainly continued during the war.

Konishiroku released their Sakura x-Ray film in 1933 or 1934.¹⁶ Given the medical applications,

the film was produced until close to the end of the war at its Hino factory.¹⁷ Konishiroku resumed the production of Sakura x-ray film soon after the war,¹⁸ presumably in 1946.¹⁹ The film was produced as sheet film, but also as 120 roll film (Type R20, Neco, 2010) and in 35mm format for the Rubicon.²⁰

In total three versions of the Rubicon x-ray can be documented.

Version 1

The camera is comprised of a thin metal (iron) body in the shape of an elongated octagon. A thick iron plate affixed at the front. A thin quadrangular iron box with an open front is attached, partially surrounding the lens.

The top plate shows a small button to the left of the advance knob and film counter unit. This is not the shutter release (which is mounted on the front shutter), but a film advance lock. Without pressing the button the film cannot be advanced.²¹ The back door is hinged at the right and has a catch at the left, with a small knob handle attached to the rear door. The latch is locked with a thin, circular knob at the bottom, which carries the English markings O[pen] and C[lose].²²

The entire camera, with its lens fitted, but without film, weighs 920g. The body on its own, with the lens mount, weighs 518g. The camera body has a total width of 133mm, with a maximum height of 80mm²³ and a maximum length (thickness) of 34mm.²⁴ The total length of the camera, measured from the front of the lens to the back of the rear door is 98mm. The height of the actual body casing is 70mm, with a thickness of 30mm.

The metal plate affixed at the front measures 118 by 57mm, which is 4mm thick. It covers the flat front of the camera body only. The reason for the heavy plate, which is made from a non-ferrous metal, is not entirely clear. At first it appears to be a shield so that the x-rays do not fog the exposed and unexposed film on the spools. This is unlikely, though, as the metal plate does not cover the entire spool cavity.

The quadrangular box partially surrounding the lens, measures 70 x 70mm with a depth 30mm and a metal thickness of 1mm. There are two screw holes at each of the four sides which would

have allowed to fasten the camera and lens unit onto an x-ray machine.

The lens mount of the Rubicon Special has a Ø42mm thread with a different pitch compared to the standard M42 mount.

The Luminon is a brass-bound lens 71.5mm long (incl. thread) with a maximum diameter of 55mm. The lens weighs 402g.

Version 2

The second version replaces the tooled advance knob with a knob that resembles a wing nut.

The body of the unit retains the distinct little knob used to pull open the back door (Fig. 6). The lens mount of the camera unit, as depicted by Yokokura (1943) in his work on X-ray fluoroscopy, shows three protruding lugs on the body that fitted into the lens mount which seems to have required a 30 degree turn to lock (Fig. 5).

Version 3

The third version retains the wing nut advance, but the little knob used to pull open the back door has been replaced by a small tab.²⁵

Production of the model of the Rubicon Special resumed after World War II. It was reputedly made until 1950, when the design was replaced by the *Rubicon II*. Some extant examples seem to support this.

The leatherette on the back of Rubicon Special sn# 2431 reads 'Konishiroku' (Fig. 10) and is virtually indistinguishable from the leatherette used on the early Konica models, suggesting the same tooling. This seems to indicate that the 'Konishiroku' labelled units of the Rubicon Special are part of the post World War II production.

Rubicon II

The Rubicon II possesses the same body as the Rubicon Special, but is now fitted with a chain-driven advance knob, a rewind crank and a differently placed exposure counter (Fig. 12) (Miyazaki, 2003, p. 15; Sugiyama et al., 1985, p. 310 n° 6110). Unlike its predecessor, the dark slide of the Rubicon II is inserted and removed from the top, improving ease of use when the camera is mounted on the x-ray machine.

The chain-driven film advance is certainly a major improvement as it not only allowed for a much more rapid film advance, but also made access to the advance knob easier and allow for remote release by attaching an extension to the key-ring at the end of the chain

The film advance lock was moved from the top of the housing to the back panel. This is the same position as the film advance lock of the Konica rangefinder. For ease of use, however, the button was replaced with a small lever.

The majority of the documented bodies shows that the camera retains the male bayonet mount of the Rubicon Special (see also Hishida, 1987, p. 84 fig. 7).

The leatherette on the back of Rubicon II reads 'Konishiroku' (Fig. 12) and is virtually indistinguishable from the leatherette used on the early Konica models, suggesting the same tooling. Similar to the commercial Konica rangefinders of the time,²⁶ some Rubicon II units have the text 'MADE IN OCCUPIED JAPAN' embossed into the leatherette of the bottom panel (Fig. 12).²⁷

From the inspection of the documented examples, there appears to be no obvious external marking of the serial number. The only number that can be ascertained is the internal camera mechanism, which is punched into the metal below the film gate.

In addition to the units listed in Table 1, two additional bodies have been offered in the past via Yahoo auctions Japan.²⁸

Lenses fitted to the x-ray cameras

The lens fitted to most x-ray units seems to have been a Rokuoh Sha Luminon 50mm f/1.6 lens (Table 1). At least one surviving example of a Rubicon Special is fitted with a 75mm version (this report). All lenses used for the x-ray cameras lack an aperture diaphragm and were mounted without shutter which was not necessary given the long exposures needed by the film. The Luminon (ルミノン), Rokuoh Sha's fastest lens design,²⁹ had been developed for use in its cine cameras (Fig. 16).³⁰ A Luminon 50mm f/1.4 lens is also known.³¹

Table 1. Characteristics of the Rubicon and Rubikon Special cameras on record

Body serial n°	1049	1241	1324?	2121	2198	2431	3827?	5017	??	5414
Name on top plate	Rubicon Special	Rubikon	Rubicon Special	Rubicon Special	Rubicon Special	Rubicon Special	Rubicon	Rubicon Special	Rubicon Special	Rubicon Special
Name on back door	Rokuoh Sha	?	?	Rokuoh Sha	Rokuoh Sha	Konishi-roku	?	?	?	?
Lens mount	screw Ø42mm	?	lugs	♂ bayonet*	♂ bayonet	♂ bayonet	?	♂ bayonet	♂ bayonet	?

Body details

Film advance	knob	knob	wing nut	wing nut	wing nut	wing nut	knob	wing nut	knob	wing nut
Film rewind	knob	knob	knob	knob	knob	knob	knob	knob	knob	knob
Dark slide	none	none	?	?	bottom	bottom	none	?	?	?
Advance lock	cupped	?	plain	plain	plain	plain	?	plain	?	plain
Door opener	knob	?	?	handle	handle	handle	?	handle	?	handle
Open wheel	O–C	?	?	?	開–閉	O–C	?	?	?	?
Film gate sn#	none	?	?	?	?	509267	?	?	?	?
Text on bottom	none	?	?	?	?	?	?	?	?	?

Lens details

Type	Luminon	Hexar	?	secondary*	no lens	no lens	Hexar?	no lens	?	Luminon
Focal/Aperture	75mm f/1.6	50mm f/3.5	?	—	—	—	?	—	?	50mm f/1.6
Name on lens	Rokuoh Sha	Konishi-roku	?	—	—	—	?	—	?	?
Serial n°	2418	3001	?	—	—	—	?	—	?	3672
Shutter	none	Compur-Rapid	none	none	none	none	Durax ?	none	none	none
Source	32	33	34	35	36	37	38	39	40	41
Illustration	Fig. 17 ff			Fig. 11		Fig. 10	Fig. 2	Fig. 7	Fig. 8	

* camera unit modified post war

Table 2. Characteristics of several Rubicon II cameras

Body serial n°	?	?	?	?	?	?
Name on top plate	Rubicon II	Rubicon II	Rubicon II	Rubicon II	Rubicon II	Rubicon II
Name on back door	?	?	?	?	Konishi-roku	blank
Lens mount	?	?	?	screw mount	♂ bayonet	♂ bayonet
Body details						
Film advance	ring pull	ring pull	ring pull	ring pull	ring pull	ring pull
Film rewind	handle	handle	handle	handle	handle	handle
Dark slide	top	top	top	top	top	top
Advance lock	?	?	?	?	lever on back	lever on back
Door opener	?	?	?	?	handle	handle
Open wheel	?	?	?	?	O–C	O–C
Film gate sn#	?	?	?	?	?	191395
Text on bottom	?	?	?	?	MIOJ	MIOJ
Lens details						
Type	Luminon	Luminon	Luminon	no lens	no lens	no lens
Focal/Aperture	50mm f/1.6	50mm f/1.6	50mm f/1.6	—	—	—
Name on lens	Konishi-roku	Konishi-roku	?	—	—	—
Serial n°	10884	?	?	—	—	—
Shutter	none	none	none	none	none	none
Source	42	43	44	45	46	47
Illustration			Fig. 9		Fig. 12	Fig. 13

MIOJ—Made in Occupied Japan

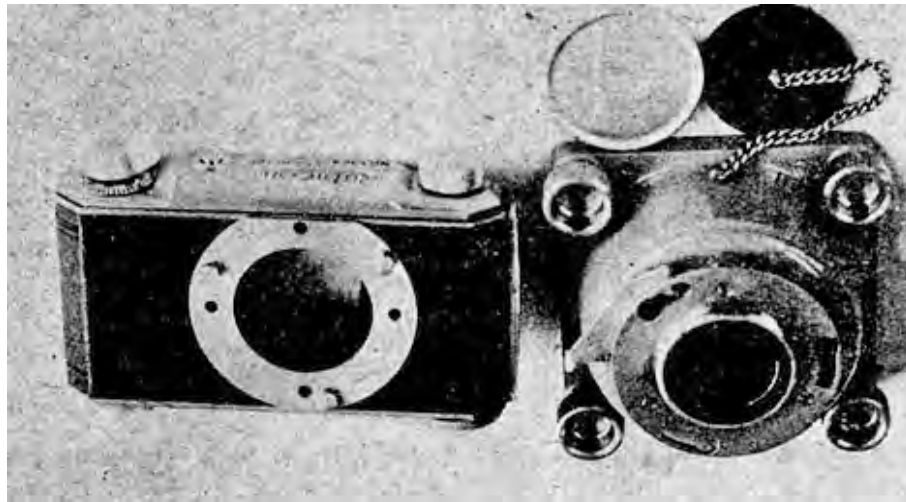


Fig. 5. Rubicon Special body and lens unit as depicted in X-ray fluoroscopy by Yokokura (1943, p. 17).

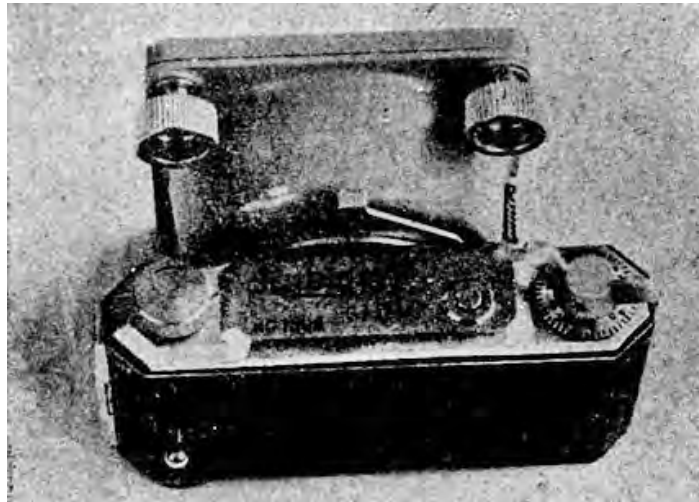


Fig. 6. Rubicon Special as depicted in X-ray fluoroscopy by Yokokura (1943, p. 17)



Fig. 7. Rubicon Special depicted in Miyazaki (2003, p. 15)

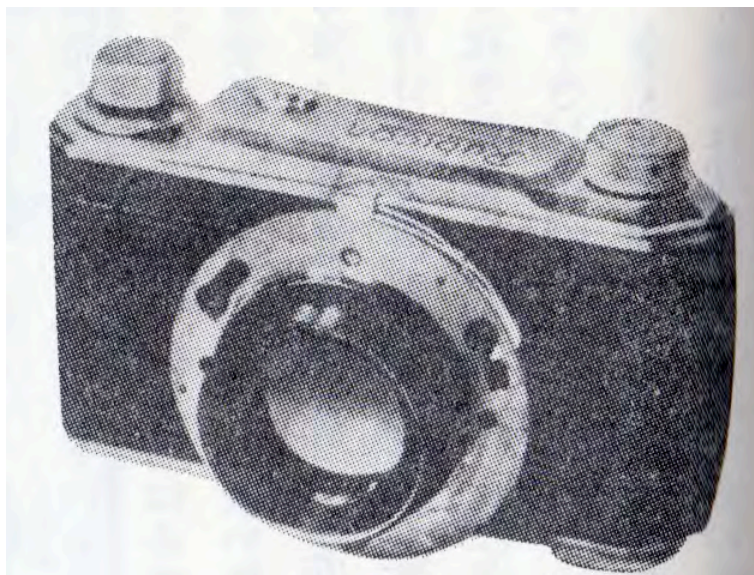


Fig. 8. Rubicon Special depicted in Konishiroku Photo Industry Co (1973, p. 190)

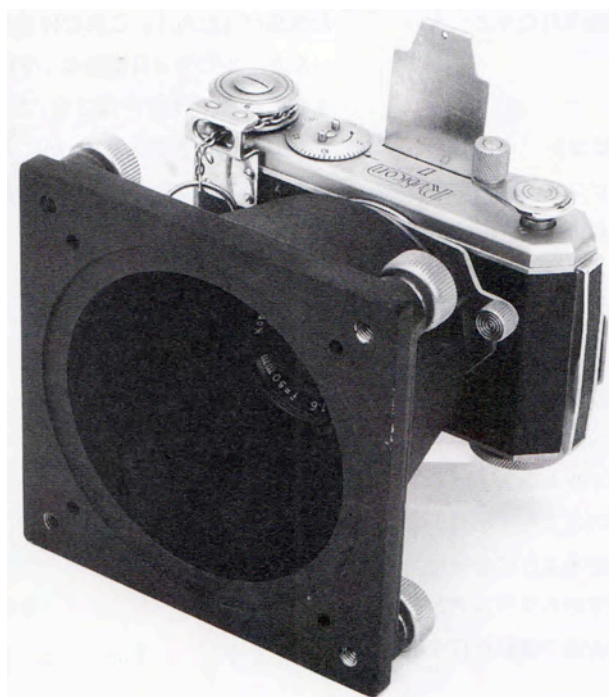


Fig. 9. Rubicon II depicted in Miyazaki (2003, p. 15)



Fig. 10. Rubicon Special sn# 2431 (Images Mycro55)



Fig. 11. Rubicon Special sn# 2121 (Images feed4168b)



Fig. 12. Rubicon II body (Airai, 2007)



Fig. 13. Rubicon II body (michelle391970, 2008 images via Adrien Rebollo)



Fig. 14. Front and back of the first model Konica (late 1847) with black shutter face (Spennemann, 2011a).



Fig. 15. Front and back of the second version Konica (late 1847) with silver shutter face (Spennemann, 2013).



Fig. 16. Rokuoh Sha Luminon 25mm f/1.6 cine lens



Fig. 17.



Fig. 18.



Fig. 19.



Fig. 20.



Fig. 21.



Fig. 22.



Fig. 23.



Fig. 24.



Fig. 25.



Fig. 26.

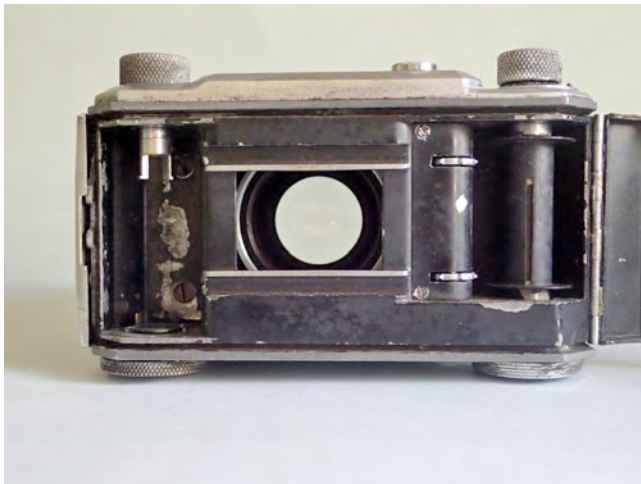


Fig. 27.



Fig. 28.



Fig. 29.



Fig. 30.

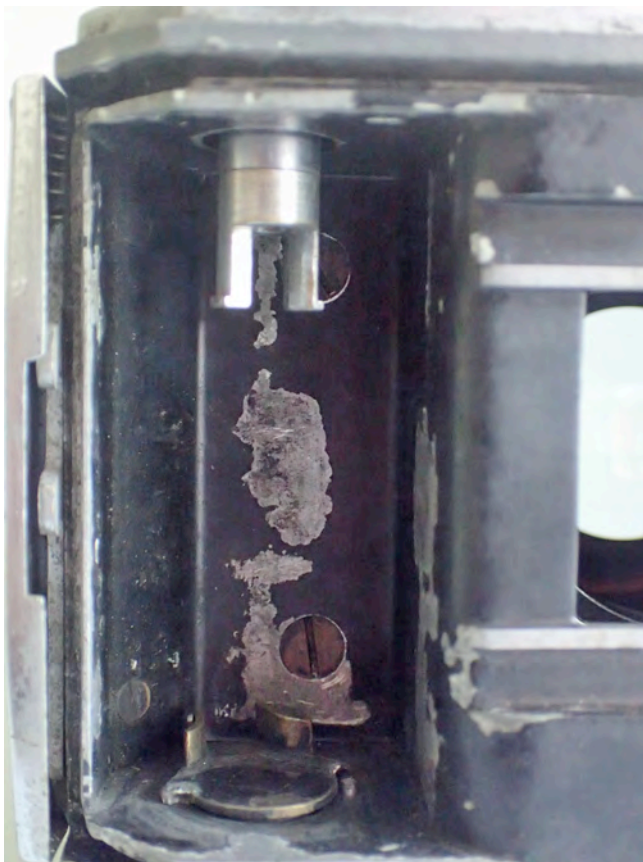


Fig. 31.



Fig. 32.



Fig. 33.



Fig. 34.



Fig. 35.

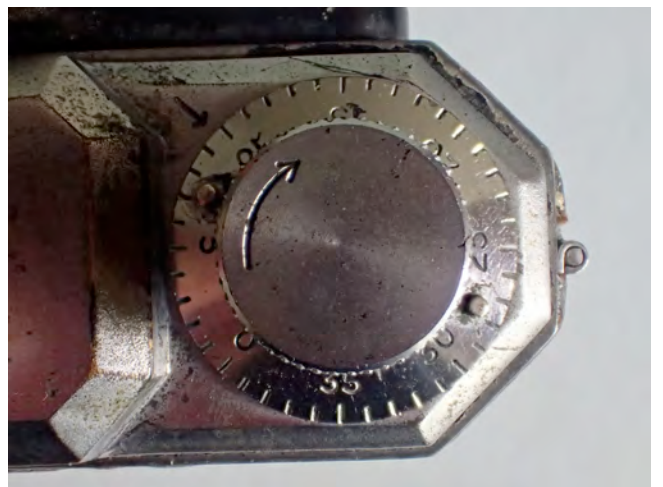


Fig. 36.



Fig. 37.



Fig. 38.

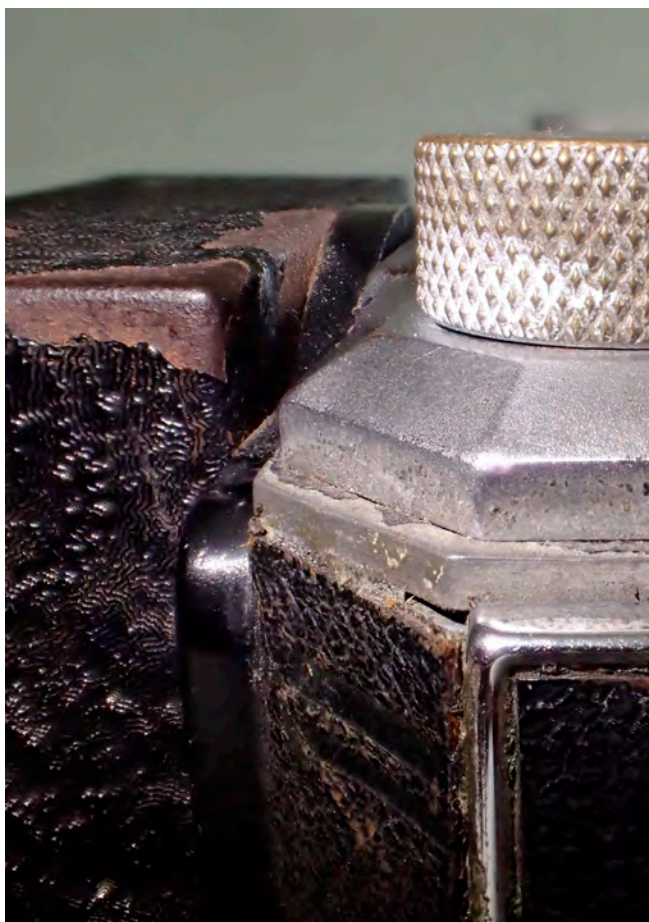


Fig. 39.

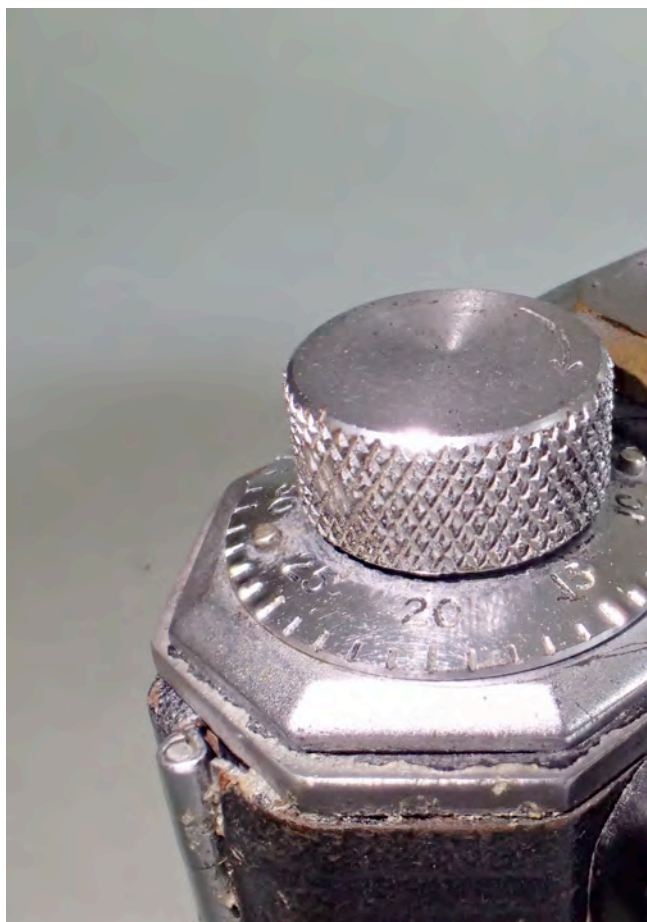


Fig. 40.

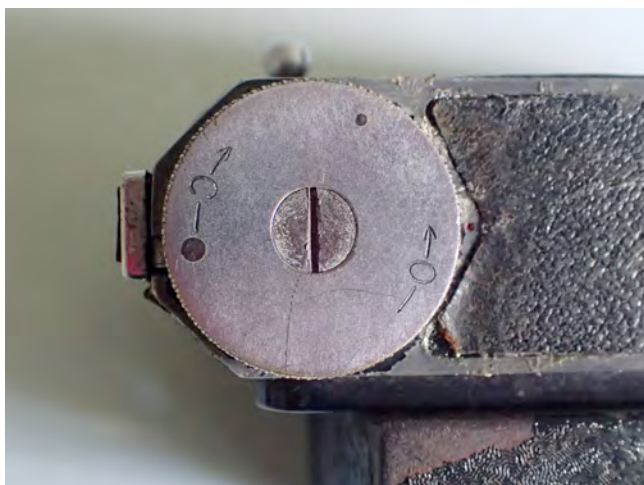


Fig. 41.



Fig. 42.



Fig. 43.



Fig. 44.



Fig. 45.



Fig. 46.



Fig. 47.



Fig. 48.

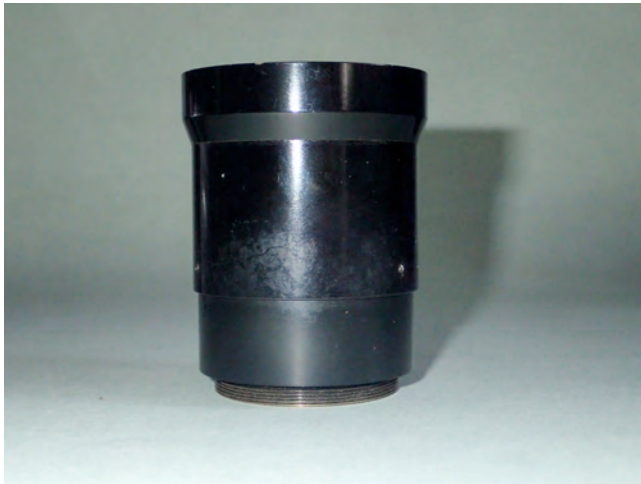


Fig. 49.



Fig. 50.



Fig. 51.



Fig. 52.



Fig. 53.



Fig. 54.

Preferred Citation

Spennemann, Dirk H.R. (2016) *History and Documentation of the Rubicon x-Ray camera, manufactured by Rokuoh-Sha (1938–1944) and Konishiroku (1946–1960)*. Konishi Cameras (小西 カメラ) n° 11.1 (vers. 1) (Albury NSW).

Endnotes

1. The length is measured from the front of the lens to the back of the film door.
2. See (Sugiyama, Naoi, & Bullock, 1985, p. 44ff) for examples.
3. I am indebted to a number of individuals who kindly assisted this study through the provision of information and images: Adrien Rebollo (Tours, France), Minoru Shiroyama (Takasago, Hyogo Prefecture, Japan).
4. This document forms part of a planned systematic documentation of pre-World War II cameras by the Japanese manufacturer Konishi / Rokuoh Sha / Konishiroku.—For other Japanese cameras see also Spennemann (2015a, 2015b).
5. The very same image, is also reproduced in Miyazaki (2003, p. 16).
6. Miyazaki (2003, p. 14) claims that one or more of the prototypes were kept by the company after the development was stopped, and that they were used after World War II to develop the Konica 35mm rangefinder camera.
7. The river Rubicon separated the province Gallia cisalpina from Rome proper. Julius Caesar, governor of Gallia cisalpina, crossed the river with his army in 49BC, breaching Roman administrative law putting himself on a collision course with the Roman Senate. The ensuing military conflict effectively ended the Roman Republic.
8. There a large number of leather camera ready cases which prominently carry the name 'Zeiss Ikon' on the front flap, but which had been custom-made for Japanese camera models. The author has seen (and owned) a number of these, made for the early (pre-war) versions of the Mamiya Six, as well as various other 120 rollfilm folders of the pre-war period.
9. Advertisement for Thornton-Pickard Special Ruby Reflex in February 1930 (*Asahi Camera* 5[2], 1930).
10. The rim-set Durax shutter (1–100, B, T) was commonly used in the Semi-Pearl (Fig. 4).
11. 'Konica' is another constructed term, derived from *Konishiroku* and camera along the lines of Leica' (*Leitz camera*).
12. The Konirapid shutter also found use in the Semi Pearl 4.5 x 6 folders.
13. Documented examples of the Konica 35mm rangefinder of 1946/7 with Hexar 50mm f/3.5 lens with a black bezel, set in a Konirapid shutter with a black face are very uncommon. Documented are:
sn# 4090 with Konishiroku Hexar 50/3.5 sn# ? in Konirapid shutter (Tomoyuki, 2013a).
sn# 4108 with Konishiroku Hexar 50/3.5 sn# 4163 in Konirapid shutter (Tomoyuki, 2013b);
sn# 4169 with Konishiroku Hexar 50/3.5 sn# 4025 in Konirapid shutter; no film gate serial number (Spennemann, 2011a);
sn# 4173 with Konishiroku Hexar 50/3.5 sn # ? n Konirapid shutter (Hishida, 1987, p. 60 Fig 2);
sn# 4301 with Konishiroku Hexar 50/3.5 sn# 4538 in Konirapid shutter (Tomoyuki, 2013a);
sn# ? with Konishiroku Hexar 50/3.5 sn# 4634 in Konirapid shutter (depicted in Sugiyama et al., 1985, p. 167 n° 3292);
14. The lowest serial number of a silver-faced Konica 35mm rangefinder is sn# 4112, depicted in a number of early advertisements, e.g Advert December 1949 issue of *Photo Art* (フォトアート), reused in April 1950 in *Asahi Camera* (アサヒカメラ) (Adrien Rebollo via Flickr).
15. For a history of the Japanese market for x-ray machines see inter alia Donzé (2013).
16. A 1933 date for the introduction of Sakura x-ray film is mentioned in: *Petersen's Photographic Magazine*, Volume 8, 1979.—A 1934 data in: *Diamond's Japan Business Directory* 1993, p. 348.
17. The factory was located at no. 6838, Aza Fujitsuka, Oaza Hino, Hino-machi, Minami-tama-gun, Tokyo (Toyko Legal Affairs Bureau Nagano Branch Office, 1950).—Before and during the war the Sakura X-ray film was produced at Konishiroku's Hino plant (Hedden, Dimitroff, & Seymour, 1945, p. 23).
18. The film's properties were assessed by Hashimoto (1946).
19. See price regulation by the occupying powers for Sakura x-ray film for standard applications and for fluorography (Wada, 1947b, p. 14); and a year later also for dentistry (Kurusu, 1948, p. 31).
20. Fuji, which had manufactured x-ray film before and during the war (Hedden et al., 1945, p. 22f), also restarted its production after the war. See price regulation by the occupying powers for Fuji x-ray film for standard applications and for fluorography (Wada, 1947b, p. 14).—Before the war Fuji Photo Film Company produced 15,000 dozen rolls of 10" x 12" x-ray film per month at its Ashigara Factory (Hedden et al., 1945, p. 35). During the war the production was scaled back to 12,000 dozen per month in favour of aerial film (Hedden et al., 1945, p. 36). After the war a production of 15,000 dozen rolls per month was proposed (Hedden et al., 1945, p. 36).
21. The later commercial models of the Konica rangefinder have this release button placed next to the viewfinder's eye piece (see Fig. 14 and Fig. 15).
22. Examples of knobs with Japanese inscriptions are also known, with 開 for open, and 閉 closed.
23. Measured from the bottom of the door opening wheel to the top of the rewind knob.
24. The measurement includes the actual body as well as the metal mounting plate (but not the box).
25. Note that there are variations to the shape of the wing nut film advance knob, mainly in the shape and angle of the wings. The sample size of cameras that can be examined is too small at present to examine that issue in any detail. It can be assumed that the pre- and post World War II units will exhibit differences, but it is also possible that differences may have existed pre war.
26. The early rangefinder models had the text engraved on the top plate (Fig. 14–Fig. 15), whereas the later versions had the marking embossed in the leatherette of the bottom panel (see for example Spennemann, 2011b).
27. Description of auction item, Yahoo auction n° r46750554 (michelle391970, 2008).
28. Former listings at Yahoo auctions Japan can be checked as far back as December 2005, using a search function of the *Aucfan* website (<http://www.aucfan.com>).
The auctions with Rubicon II bodies were (no serial numbers were mentioned in description, images available as thumbnails only): 7 May 2008 (Yahoo auction n° r46198464); 25 May 2008 (Yahoo auction n° r46750554) (michelle391970, 2008); and 31 May 2009 (Yahoo auction n° r55802677).
29. Prior to World War II, the Optor and Hexar lens designs by Rokuoh Sha did not exceed a maximum aperture of f/3.5. The Hexar 50mm f/2.8 was a post-World War II development for the Konica 35mm rangefinders.
30. On record are a Luminon 25mm f/1.6 sn#733 (Rogge, 2015) as well as sn#772 (Fig. 16), both were used the Cine Sakura 8mm film camera.
31. Mentioned and depicted in Twitter: (Fotomutori, 2015).
32. For additional details, see this report.

33. Set in a Deckel (München) Compur-Rapid shutter (T, B, 1–500). Unit depicted in Hishida (1987, p. 60 Fig 1).
34. Yokokura (1943, p. 17).
35. Offered at Yahoo auctions in November 2013 (feed4186b, 2013).—Serial n° 2121 is a post-war modified unit (Fig. 11). From the limited images shown at the Yahoo auction in November 2013 (feed4186b, 2013), the camera body was stripped of its mount (presumably the male bayonet mount) and then fitted with a lens board of a Foth Derby to which a Picner Anastigmat 40mm f/4.5 set in a Boltax II shutter has been fitted. The lens and shutter unit, as well as the tubular finder have been cannibalised from a Boltax II camera of 1940 vintage (Camerawiki, 2015a).
36. Depicted by Myers (2012).
37. Offered at Yahoo auctions in September 2014 (Mycro 55, 2014).
38. depicted in Anonymous (1946).
39. Depicted in Miyazaki (2003, p. 15)
40. Depicted in Konishiroku Photo Industry Co (1973, p. 190)
41. Depicted in Sugiyama et al. (1985, p. 74 n° 6020).
42. Depicted in Hishida (1987, p. 60 Fig 2).—Hishida (1987, p. 84 fig. 7) also depicts a body without a mounted lens unit. This shows that the lens mount was a male bayonet mount.
43. Depicted in Sugiyama et al. (1985, p. 310 n° 6110).
44. Depicted in Miyazaki (2003, p. 15)
45. Depicted in JCII Camera Museum (2015)
46. Airai (2007).
47. Offered at Yahoo auctions in May 2008 (michelle391970, 2008); images via Adrien Rebollo (France).

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