

## Foreign Countries Experiences:

At a first glance LOMO was the most accessible of the Russian factories. And it would be considered as the Ambassador of Soviet photo-optical industry. Undoubtedly was the most active of the conglomerate in foreign countries. Sealing this philosophy the first movie camera produced by LOMO, the Sport, was renamed Ambassador for the external market.

### Poland

**LOMO's first foreign cooperation began in Poland**

### Start

#### Start I or Start

#### Camara "Start" (1954 - 1960)

First Polish TLR- 6x6cm

- Euktar or Emitar lenses : Taking lens 1:4/75mm, viewer 1:3,5/75mm central shutter 1/10 to 1/200sec & B synched.

From about 1949 it was formed the WZFO especilly constructed for producing all sort of photo and movie equipment in Poland. They decided to built a TLR for the internal market. This camera began to be projected by *Centralnym Laboratorium Optycznym* but WZFO had the same Idea and united efforts towards the same boot.



After the war, Poland and Soviet Union united efforts for a mutual development and Poland received in 1954 a complete car factory in order to build the Warszawa car under Pobeda plans, but optical and fine mechanical engineer had already sufficient technology to build their own models. LOMO lent the Lubitel shutter and Polish developed their own optics slightly luminous than the Russian counterpart. It was made the first Start model.

### **Start B, and Start II) (Known as the Polish Rolleiflex)**

The original model was followed by a new generation based on same concept. A new body model with a new lens, based on Zeiss Triotar of older Rolleicords with the same previous shutter would give the structure for two new variants: The simple one will have the same specifications of the previous version, and a new one with crank film advance, auto stop and shutter tensioning with double exposure prevention and windows for seeing diaphragm and speeds. A kind of poor man's Rolleiflex is now offered. Millions were sold and WZFO was known world over through these cameras.

**„Start B” (1960 - 1967) - „Start II” (1960-1965) (First proposed name "Duoflex")**

Both with twin Euktar lenses 1:3,5/75mm



## Start 66, Start 66S

The third generation changed again its body in a more Ikoflex style. With a very smart presentation, maintained everything was right lenses and shutter. Two variations came: a simple one and an automatic stop advance. These cameras came in an era of the demise of the 6x6 and regrettably did not see so much success.

**"Start 66" (1967 - 1970) , "Start 66S" (197? - 1980 ?)**

Emitar 1:3,5/75mm

*"Start B" - evolution*



Start 66 S with auto-stop and automatic frame counter. During this period WZFO was absorbed by PZO which halted its production. PZO microscopes also follow the same LOMO standards.

## Fenix

***"Fenix": I, II, Ib, IIb (Is, IIs,) (Ia, IIa,)***

After the Start and following the same Soviet politics they launched the Fenix that was a kind of an upper level Smena, fulfilling so the 24x36mm market.

The first model was a direct finder camera using the same shutter and a new developed lens, always based on the faithful triplet. Now Euktar 2.8/45mm.

All the cameras share the same body and has a single generation. Model I and Ia are exactly the same, but Ia has film rewind.

Model Ib is the same as Ia but sports a collimated finder with aerial frame.

Model II and Ila had the same differential of I and Ia this series, the rewind capabilities. Both series II sports a coupled rangefinder very similar to the Agfa Karat. There were planned models Is and IIs with self timer. but did not come into production.

Their common characteristics are:

- Coupled film advance and shutter cocking with Double exposure prevention.
- manual frame counter with window over the left hand advance lever.
- Film "memory" around the release Button.
- Optional cassette to cassette operation without rewind.
- "Fenix II" rangefinder gives all image focus frame.
- Contina inspired body.
- Bottom rewind knob (on rewind models)

### **Fenix I and Ib**



**And....**

## Fenix II



Rear view of Fenix series "a" with rewind fork

*Soviet Union cooperated with Poland in the area of optics, mainly in the military affairs. Here, due cooperation of the emerit collector Jacek Przybyszewski we show a WZFO 1952 production of the soviet S-3 camera from Kazan. It was applied in Su-15, Mig-21 and Mig-23 planes.*



Polish version of Soviet S-13 aerial camera



Internal view of the chamber in Polish S-13



Diaphragm aperture settings



Plate indicating a S-13 produced for the Poland Air Force by WZFO



Russian S-13 with Tair 3 300mm lens



Openings shape in the S-13 high speed rotary focal plane shutter



Russian version with Industar 3.5 50mm







## **Belarus**

Just in 1957 LOMO cooperated in founding MMZ in Minsk, Belarus, one of the then Soviet Republics, in order to have a new facility towards producing lenses, Lens manufacturing tools and equipment, and began producing Smena MMZ as shown in the tables. A special chapter will be dedicated to them.

## **China**

**LOMO's second foreign cooperation continued in China.**

After their experience in cooperation on the assembly line at Minsk, they went to China to begin production of CHIANG JIANG and soon after Chang Le at Xi Bei province from detachable parts. Later, HUA SHAN at Sichuan where Chinese begun to make their own bodies.



Two CHIANG JIANG in the center two HUA SHAN at the borders.



CHANG LE was the second camera.



Both cameras inspired Chinese to new adventures. The Smena inspired the Xing Guang Beijing at Camera Factory and the Youyi, with Rollei 35 body which uses the same Smena T22 and shutter.

See the following page



And Lubitel inspired several generations, types and novelties.



Right: Hong Mei -Left: Hong Mei - 5

Next page: HM-Qu Mei



The HM-Qu Mei

This is the Qu Mei intended to use a short lived 120 black glossy paper film that simulate tin type photos. You need not to copy your negatives. The idea was not new. You can see it had its roots long ago in this ad of 1930 and also the more recently the Fotochrome and the Polaroid One Step.



Fotochrome ad.



Polaroid One-Step

## Special Acme 35mm. Street Vending Camera

Candid camera studies—snapshots of the passersby are all the rage now. Armed with this special Acme Camera you can work any busy thoroughfare. Snap pictures of your prospects as they approach you—then hand them a card telling them what you've done, with instructions on how to return to get their pictures. The 35mm. negatives you take are then enlarged to suitable snap-shot size and mailed to the customer. Users report remarkable returns.

### Perfect Identification Recording System

This special unit provides a perfect record system—permitting identification of negatives by a special numbering system. The return card which you hand the prospect is numbered—the number protruding—and this number is photographed directly on the film, providing a positive means of identification. A special auxiliary lens mounted with a prism underneath the camera records the numbers.

### Reflecting Finder

A special large size reflecting view finder is mounted on the camera top—producing a large image—enabling you to catch pleasant expressions, poses, etc. A flick of a lever advances the film for each successive shot.

### Profitable Business

Operators who are working with these cameras report a remarkably heavy percentage of returns—and as you work with 35mm. film your costs are practically negligible. Below is illustrated a standard strip of film as produced by the camera.

### Super Speed f3.5 Lens

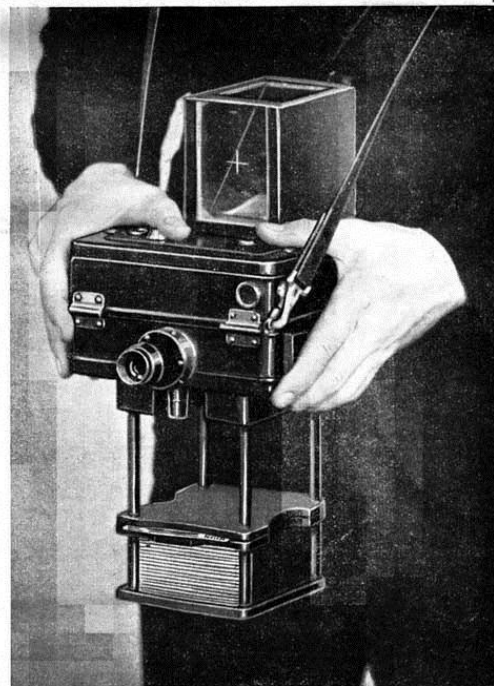
The objective lens is a super speed F:3.5 Anastigmat of 2 inch focal length. Under normal outdoor light conditions lens may be stopped down to secure a depth of focus to assure critically sharp negatives within the working range of the camera.

### Complete Outfit

Complete outfit as illustrated fitted with special F:3.5 - 2 inch anastigmat and auxiliary lens for recording system—special reflecting view finder and identification card rack with sample card. Includes special mechanism for single exposure and single frame film advance.

**Special Price, \$135.00**  
**Net Only . . . . .**

Specify Number 2705J when ordering.  
Furnished with F:1.5 - 3 inch Dallmeyer Anastigmat lens at \$75.00 additional.



Price quoted is NET CASH or C. O. D. No discounts, charge accounts, trades or time payments will be allowed.



Hong Mei HM1 is a foldable camera adapted from Agfa Isolette body sporting a Lubitel shutter and lens.

Hong Mei 5 fuses the Czech Flexaret focusing system with the same shutter and lens. All used same shutter and T22 lens derived from Lubitel. (Changzhou Camera Factory China)

Today they produce two LOMO variations and Lubitel 166 plus.  
Through Lomography, LOMO is still alive!



LCA+, LCW and Lubitel 166 + are also currently produced.



## India

LOMO was a long time partner of Cine Sales Co. of India. They begun in 1949 installing Soviet movie projectors in every cinema halls along the country, and selling movie cameras to studios, to which still is the greatest movie industry in Asia. That way, after the maintenance, they went to the production of various professional 35mm sound projectors and also produced the Lubitel 166 which inclusive were exported to TOE in England around the 1980 years.



**CINESALES  
(INDIA)**

based on LOMO PKP projector



**LUBITEL CINESALES INDIA**



# Brazil

Since the early 1960 LOMO marked its share in our country through the Lubitel and Smena cameras. Lubitel 2 made its first triumphant appearance through a friendship football game between Vasco da Gama of Rio de Janeiro and Dynamo of Moscow in 1958, when the Soviet Trade Representatives distributed Lubitel cameras to all the Brazilian football staff and some of them were given as prizes to the public who had its Maracanã bills in accordance to the five State Lottery numbers of the same day. A truly success. In 1958 Brazil attained the Football World's Cup Championship, and Russia made his show at Brussels' World's Fair, one year after the Sputnik successful satellite launch.

In 1986 It was signed an agreement of Twin Towns or Brother Cities between St. Petersburg and Rio de Janeiro. It was presented the movie *Leningrad Rio de Janeiro* showing their similarities. This led to organize two exhibitions of potentialities of each city in the other. There were shown the pre-production examples of Smena 35 and the new Lubitel 166 Universal in a cocktail to entrepreneurs at Copacabana Palace. This same time I was working on the projects now shown, and I was invited to visit their factory.

Since 1975 with the international petroleum crisis, it was difficult to obtain import licenses, but it was easier to firms that produce and export some items. It was officially made two modalities of easiness of importing: draw-back and pay-back facilities. In the first one you aggregate Brazilian components, in the second is a turn-over of values in import export modalities.

We jointed efforts of three firms: Ourselves, the Eletrometalurgica Piniewsky Gimenez and Frata who would furnish the electronic modules.

It was decided to make different kind of cameras although based in simple LOMO technology. And there was born the first project the *Smena Molnija*. The idea was to expand the commerce, that way we went to both programs The *Smena Molnija* is based on the *Smena Symbol* with a top and bottom modifications incorporating an adaptation for a built in electronic flash using a simple pen cell unit already available from Frata. This was our main and immediate boot.

The Smena itself went to a series of ideas. Lubitel also suffered several versions. And then was born an upgrade version if it. *The Vertex* a single lens reflex in the 6x6/4.5x6 format. This camera had only 88 pieces (less than the original Lubitel). It was an extreme versatile camera with a lower production cost (for the body only).



### The Smena Molniya

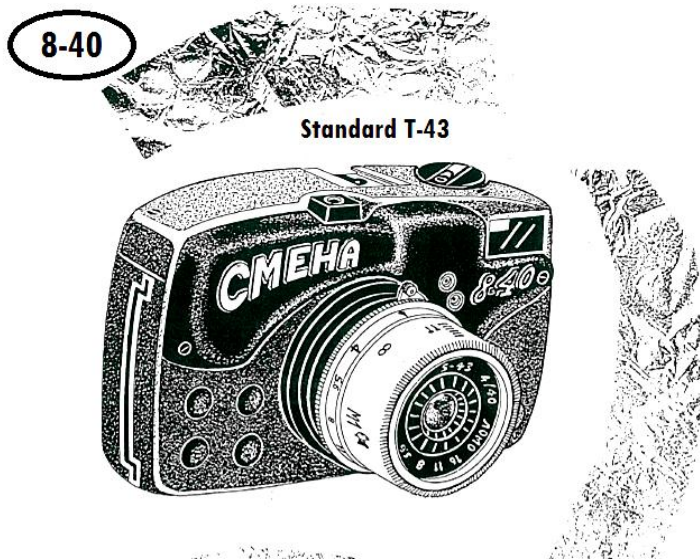
Made in two versions: right and left handles.





Bottom view of the two models

## Modernized Smena 8M Generation



Using the same project of original *Smena 8M* it was suggested an upgrade visual of the sacred camera. Only change in the outside face of the body, a new aerodynamic top and an stylized front name plate gives a new appealing shape to this champion of sales. So was born the *Smena 8-40* using the same frontal optics/shutter assembly.

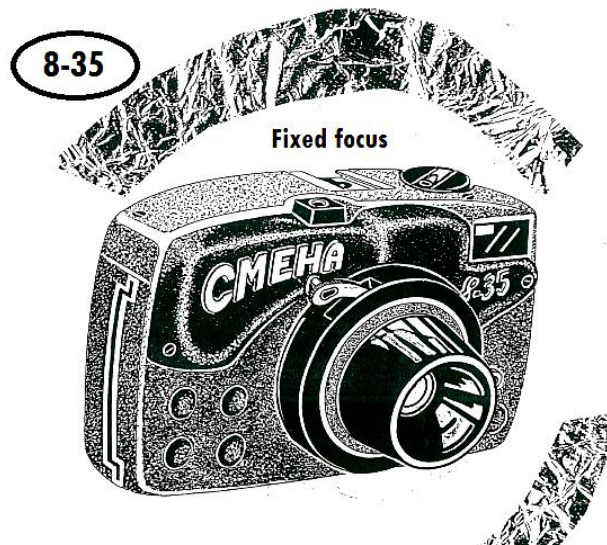
At the time, *Beirette* of GDR was a great concurrent. They went down making a single speed and meniscus lens

That way was proposed a *Smena 8-35* with fixed focus 35mm lens, applying the shutter of an already built camera from our Consortium the EMPG called *Ami* which was copy of the Ferrania Eura.

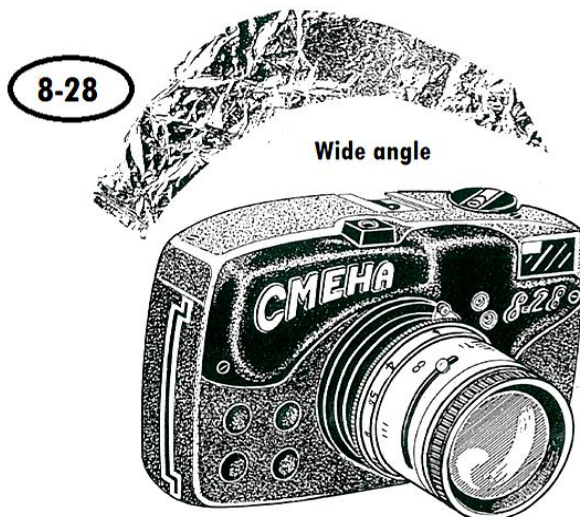


Ami camera 6x6

Its optical finder was employed on the top unit of Smena Molniya.  
In the following picture we see the appearance of the second version.



A new "chemistry" was again employed: a 0.8x Petri wide-angle adapter over the 8-35 made a 28mm wide angle camera. The variant employed the original five speed Smena shutter and two diaphragms 8 and 16. At the side the Petri wide and telephoto converters.



And what to do with the original Smena's big throat?

A new "chemistry" suggests adapting the full Lubitel optical and shutter unit making an excellent and affordable portrait camera. The 8-75 is the answer.



8-75  
Telephoto T-22

And what did you say about stereo? At this same year *Realist* was showing its short base stereo. Previously Leica and Contax had their models. Why not a low priced competitor? Twin meniscus optics from 8-35 in a modified Ami shutter created this short base stereo ideal for close-ups and flash photography. 1/30 speed with fixed f16 and filter thread 46mm for close-up lenses and neuter filters. This same idea I saw later in Loreo and Hugo de Wuij cameras and accessories.

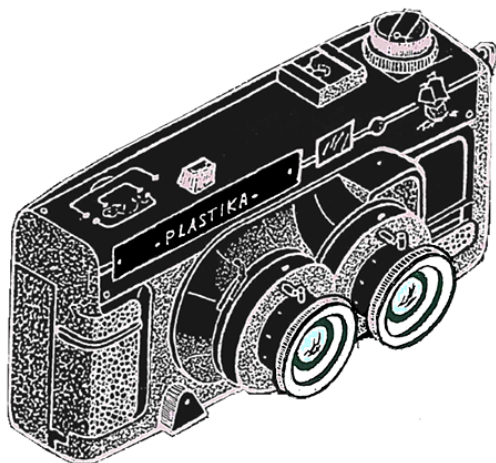


8-85  
Stereo Short Base

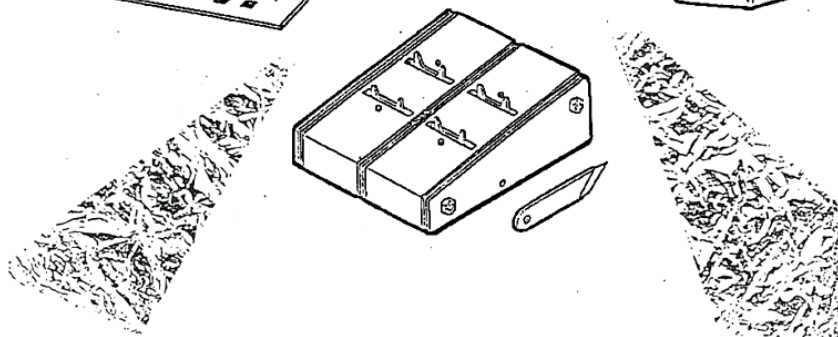
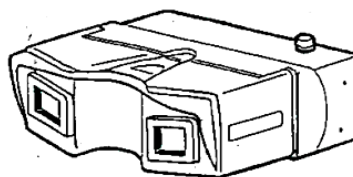
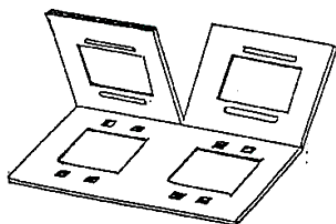
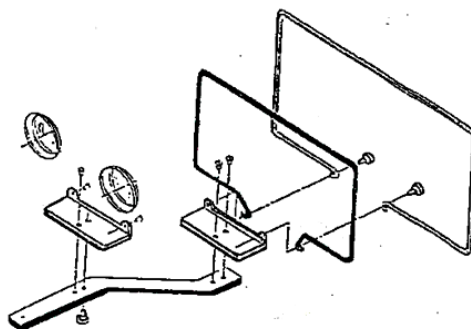


The 8-35 evolved in a high level camera The *Plastika Project*.

# SMENA PLASTIKA STEREO UNIVERSAL



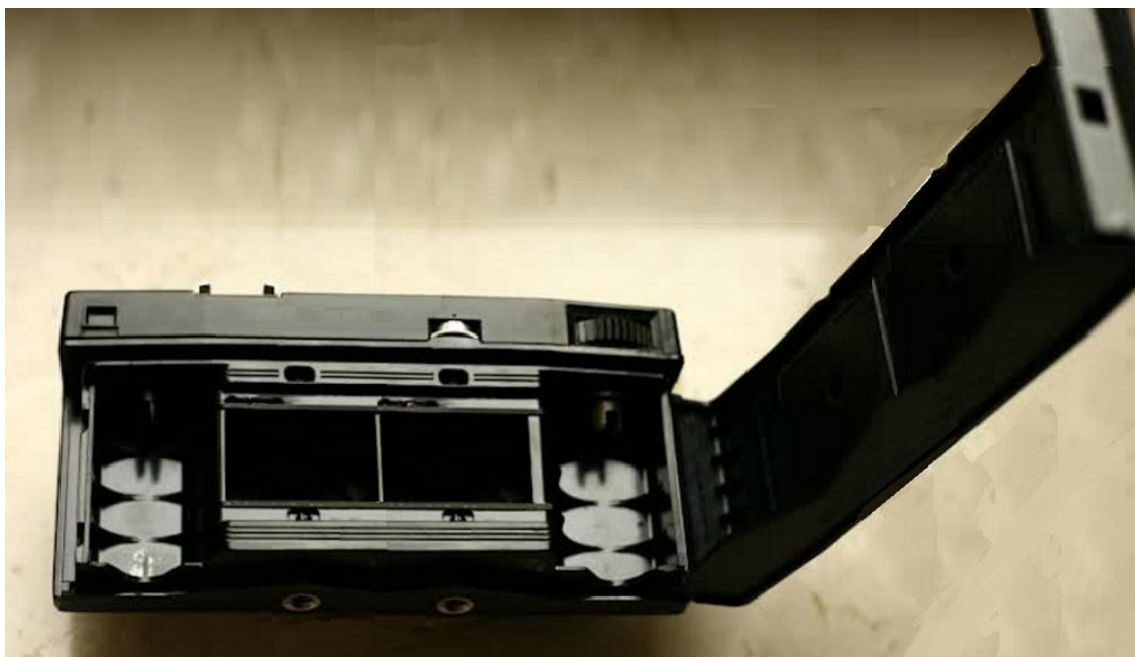
STEREO /



This project came to reality but only two prototypes were made. We had requests for much more but that was another story.



The Project Plastika renamed Vertex Stereo



Vertex Stereo rear view

## **The Disaster.**

All these cameras derived from Smena and those in the next segment derived from Lubitel were intended to be produced, and including we were forming specialized people in assembling those items. We would do different types of cameras because they were intended for export and place them in the export items of Technointorg as the Cinesales Lubitel.

All these projects were paid by empq which was a large manufacturer of electronic connectors tube bases, printed boards etc. That same year CoBra Computer - Computadores Brasileiros S/A was born theoretically developed to fulfill all market needs in South America (at least) empq was requested to produce bases for chips and all kind of connectors in a huge demand.

They signed contract, after making several revenue projects. I said to them that was untrue the projected market could no be this size, there were external pressures, etc. empq contracted several financing in order to increase its large industrial park in Jundiaí São Paulo. Contracted specialized men in tooling at high salaries. Suddenly CoBra unexpectedly suspended their requests and regrettably empq was completely broken in 1995 immersed in extraordinary debts.

A pity to our projects. Although they are still alive in this description.

During this time I accompanied the enthusiasm of LOMO people during the beginning of Almaz Project, the difficulties during prototyping and and their demise at the same era. As you know, Almaz would supply to the journalists syndicate of URSS. With the demise of Soviet Union they removed their interest in continuing their development.

The profile was exactly the same.

I believe that a conclusion is evident. Be the judge.



## Lubitel

A parallel work was made with Lubitel in order to produce some variants

The TLR was the king of cameras since the appearance fo Rolleiflex

The first competitor also arose in Braunschweig the Voigtlander Brilliant . Others followed. After the war, Komsomolets and Lubitel begun spreading in the market world over.

Just in 1959 Japanese were consolidating his market share and in order to assure their position in the market new ideas were applied.

Among them they were the first to introduce wide angle and telephoto attachments to all bayonet mount TLR Sun and Walz were the first of them. Rollei followed some years later with a high quality product and Yashica waited a bit more. Using current accessories we developed a multitude of variations.



Yashica telephoto converter kit on Yashica 124



Sun telephoto kit on Kalloflex



Sun telephoto kit for 6x6 (right) and 4x4 cameras (left)

The only manufacturer to propose converter for 4x4 cameras.



Sun Wide angle for 6x6



Rolleiflex presented huge and costly quality units in 0.7x and 1.5x adapters.





But recently Seagull of China put on market only the telephoto 1.5 X converter



Seagull GC15X TLR 1.5x Telephoto Lens



This extremely compact and low cost converter is the target of our later Lubitel telephoto camera.





Fish eye adapter and two types of technical sunshades



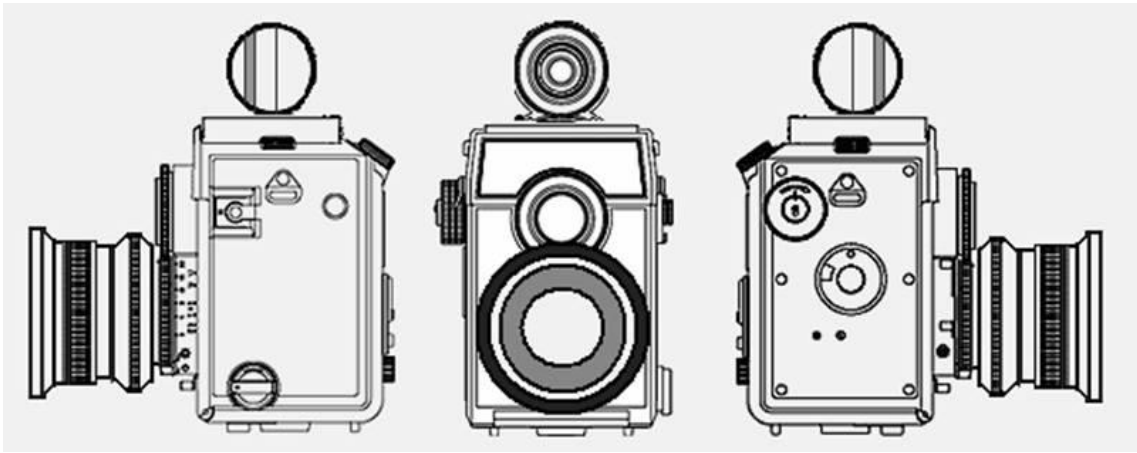


The technical sunshade is made of rigid aluminum adapts into 40.5 lenses and has internal screw for series VI accessories.

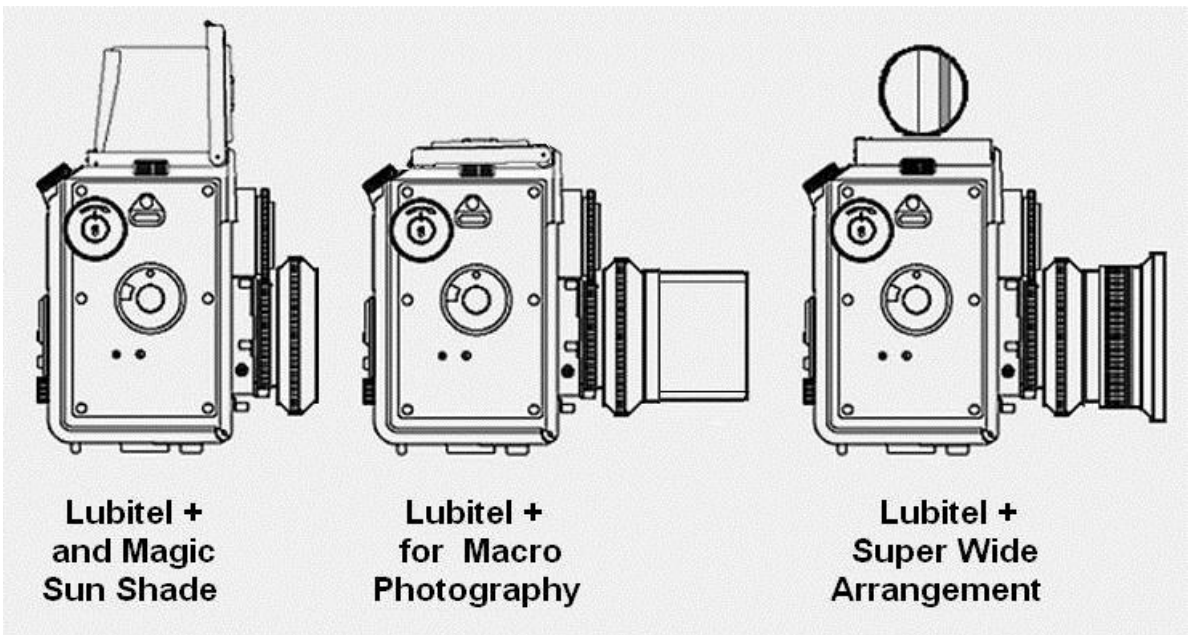








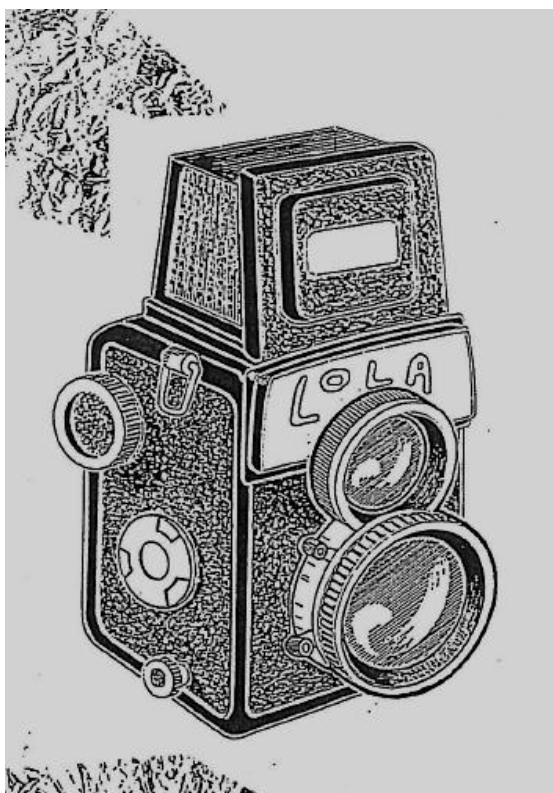
Wide angle 0.42X and macro lens with illuminator tube



# Lubitel The New Generation

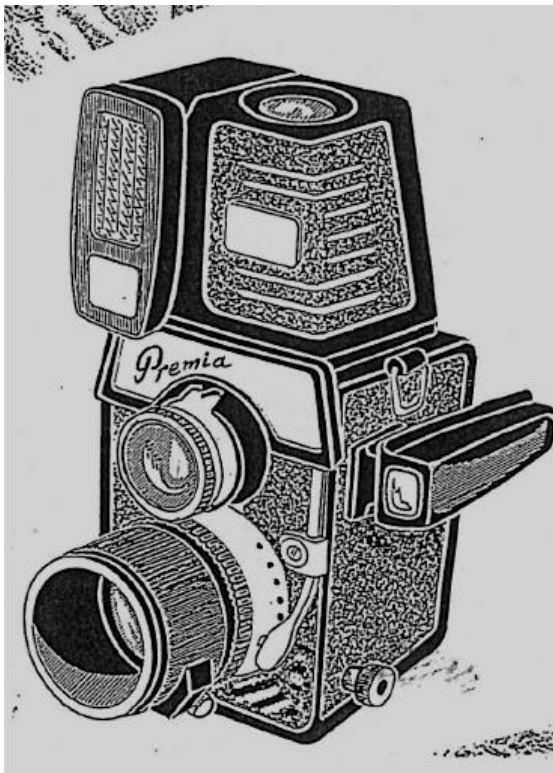


Above: Lubitel Telephoto. - Next page: Lubitel Wide angle SWC and built in flash with eye level finder.

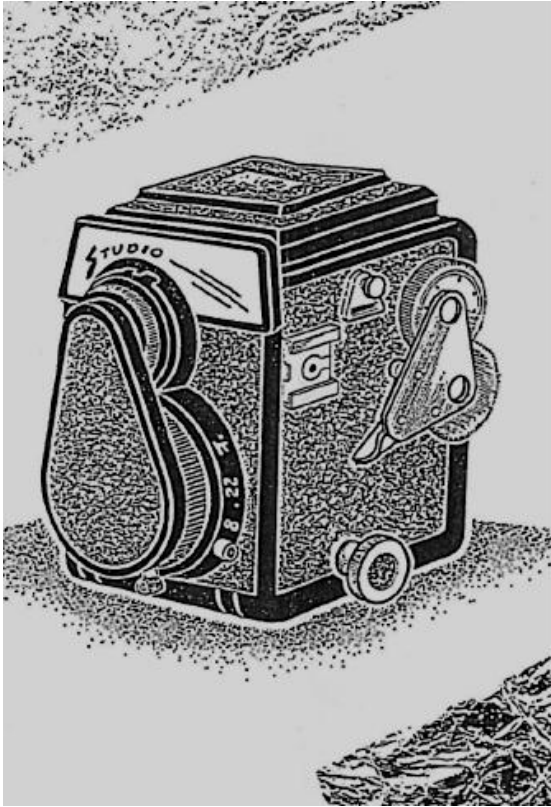




Elektron Once the built -in flash camera



And feasible models. Below 35mm adaptation for studio composition



A miniature reflex for 4x4 pictures in 120 film.

And the Do-it-Yourself Honeyflex! A kit to the young !



## Orbita

The project Orbita is a development of basic ideas shown in Sputnik cameras. These cameras has limited operation due its compactness that imposes a kind of rear doors that are in no way satisfactory Also the body allow large tolerances in the shutters mounting holes. This turns difficult mounting stereo pairs in function of the alignment of lenses. In our case we opted for regulating the gear train through the finder lens. This was not yet decided in the prototypes we have done but is the decision for the future. The Orbita project sports a new body of own concept including a battery chamber for the motor in the third option. This is the basic body we constructed: This multiple project belongs to the same that begun with Smena Molnija.



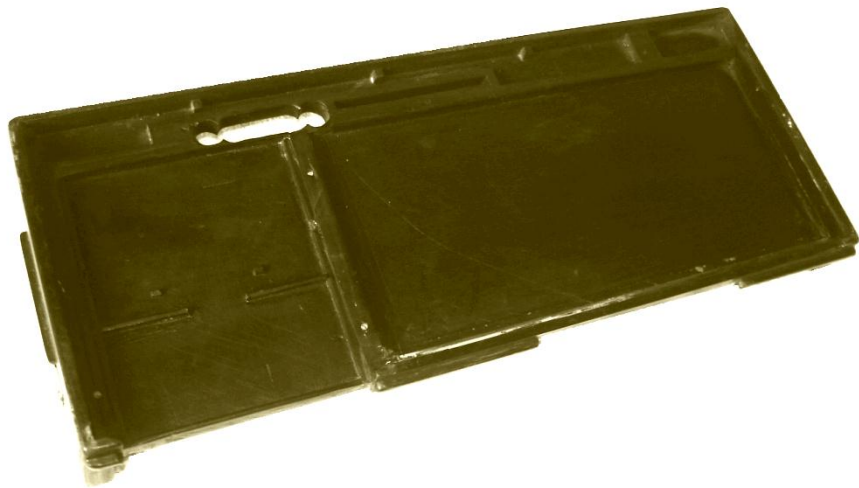




We began building a new body. A flexible project that could be used in a variety of applications. The project Orbita received its name due the singularity of one of its adaptations. A panoramic camera turning around 360° whose project was based in the old Alpa Roto Panoramic.



Alpa Roto Panoramic



The body was thought in order to be used in all versions of our new project.

These intended versions are: The normal Sputnik with all three lenses and shutter found in original model. It was thought various more versions:

A wide angle Fixed focusing using the Yunkor lenses in the original Sputnik shutters, making use of diaphragm. This type needs not to be reflex, so a simple frae finder was proposed.

A telephoto version applying three teleconverters in the back of the camera. This is difficult to make and has a limited stereo appeal, it wil

be easier apply front converters as in the case described in the Lubitel Tele

Another version is the Close-up version 35mm of interpupillary distance and fixed focus at 1metre. Close-up lenses bring to nearerer distances, remembering tht each diopter must be added +1 by the reason of the 1m positioned lens. Now it was used a pair of 8/75 from Shkolnik in a synchronized rotary shutter with 1/125s speed. 8, 11, 16, 22 and 32 diaphragms are available.



This is the basic body of Orbita project.



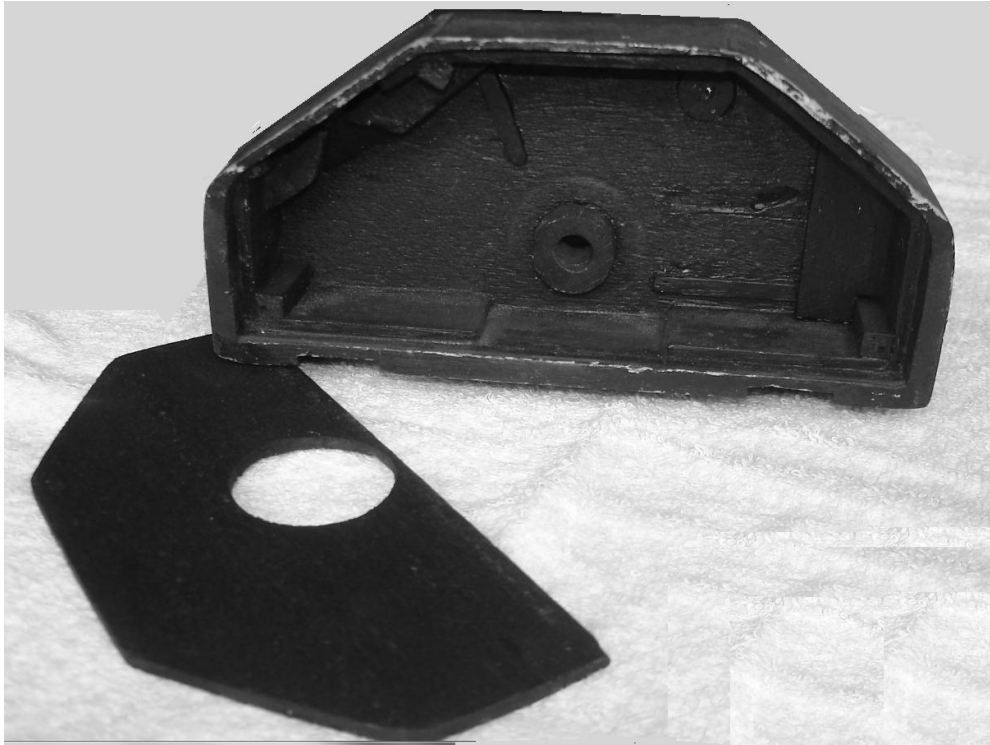
A wide angle using a 90mm lens was thought. This interesting model was developed to be used with an Hypergon type lens. Due to inherent difficulties to mount this lens in a shutter we developed a shift front designed to receive a normal Smena shutter off-axis operating a single metal sheet inter elements. The diaphragm is click-stop disc with Waterhouse stops. This can be seen in the next two views. The next one shows the assembled system.



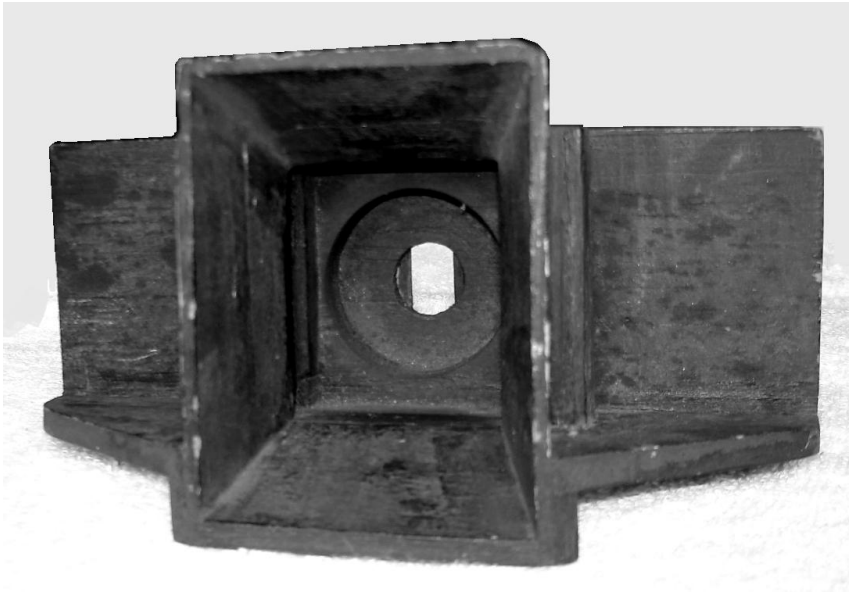


The Roto panoramic begins with a special case which holds a wheel (no shown) that contacts the film. The upper half part of the case has a simple shutter closed when camera is still and opens immediately at the beginning of operation. This is done by a relay that also frees the

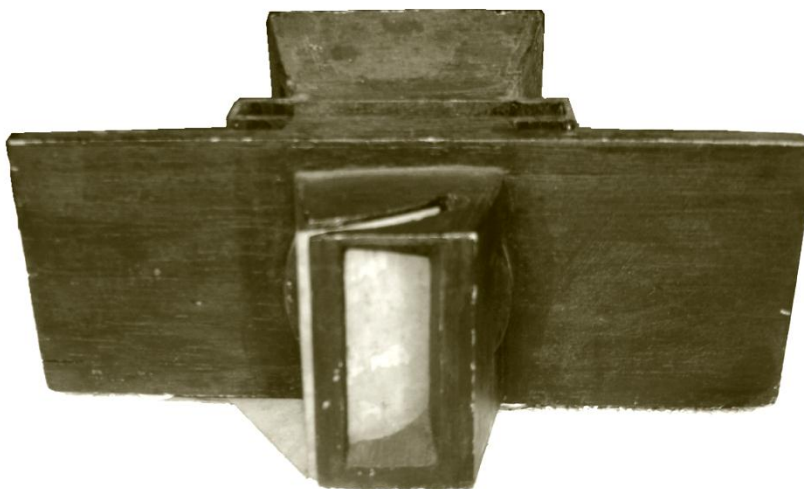
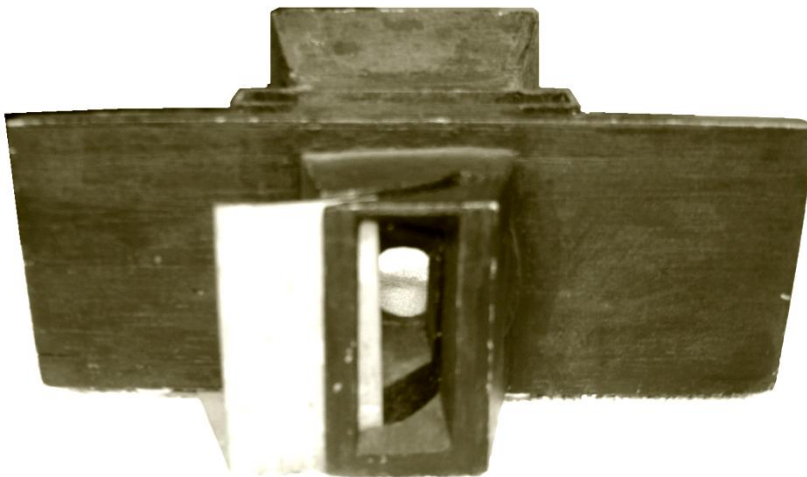
contact wheel we said about. A small motor with gear reduction begins to move the film, which becomes part of the mechanics. This makes the body to turn around the lens nodal point. When the turn is complete the system turns off. The lens to be used in the system is a T-69 from Vilia cameras. A side removable front accept 49mm filters.



The half bottom of the roto panoramic

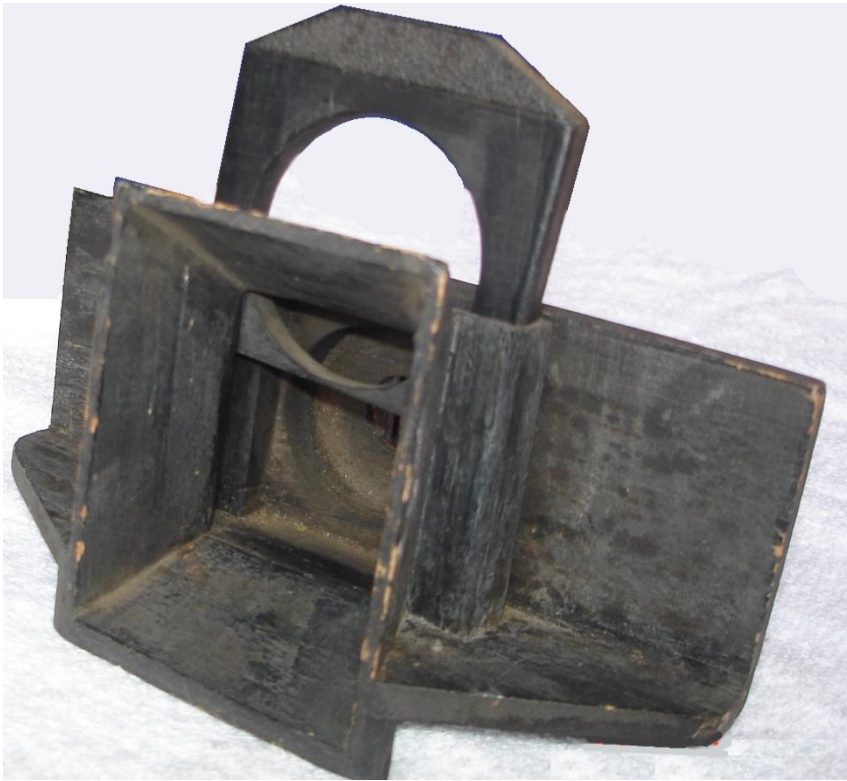


The top half of the roto panoramic



Seeing open and closed shutter and filter drawer.

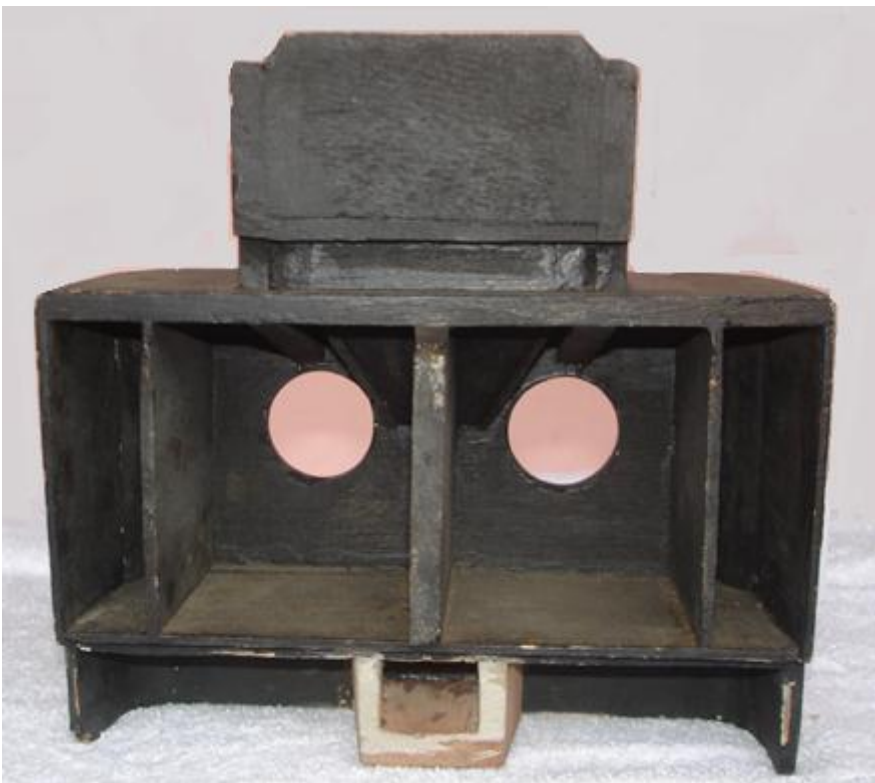




Finally the basics of panoramic camera



Front and rear of the stereo case



Rear view



Assembled stereo unit

From papers of the project

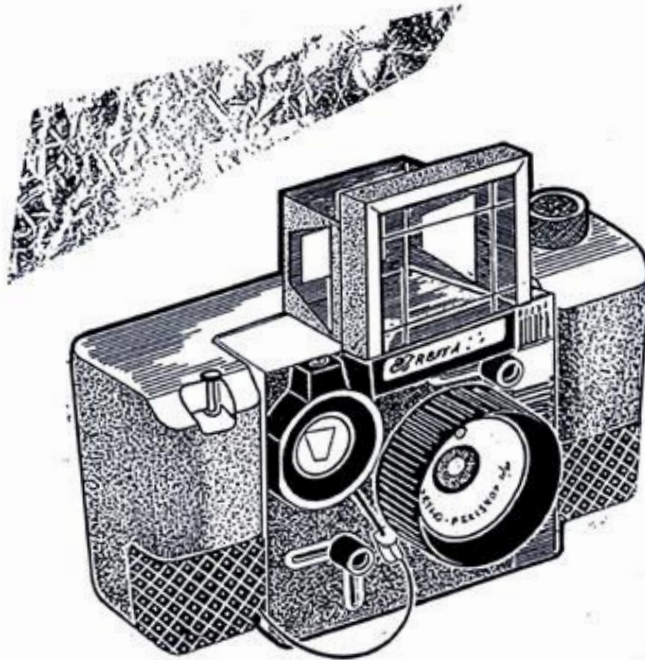
## "ORBITA" FAMILY OF CAMERAS :

ORBITA IS A PROJECT DEVELOPED FROM THE PREMISES OF BUILDING A PRIMARY CAMERA HAVING A INTERCHANGEABLE FUNCTIONAL BODY. THIS UNCOMMON BASIS ENABLES IT TO FULFIL FUNCTIONS UNCOMMON TO ALL OTHER ONES. IN ORDER TO MINIMIZE PRODUCTION COSTS, WE DECIDED TO USE READY-AVAILABLE PARTS.

THE "ORBITA" CAMERAS ARE:

### PANORAMIC TYPES :

#### "TRIOPAN" THREE-FORMAT SHIFT PANORAMIC CAMERA



#### "TRIOPAN" :

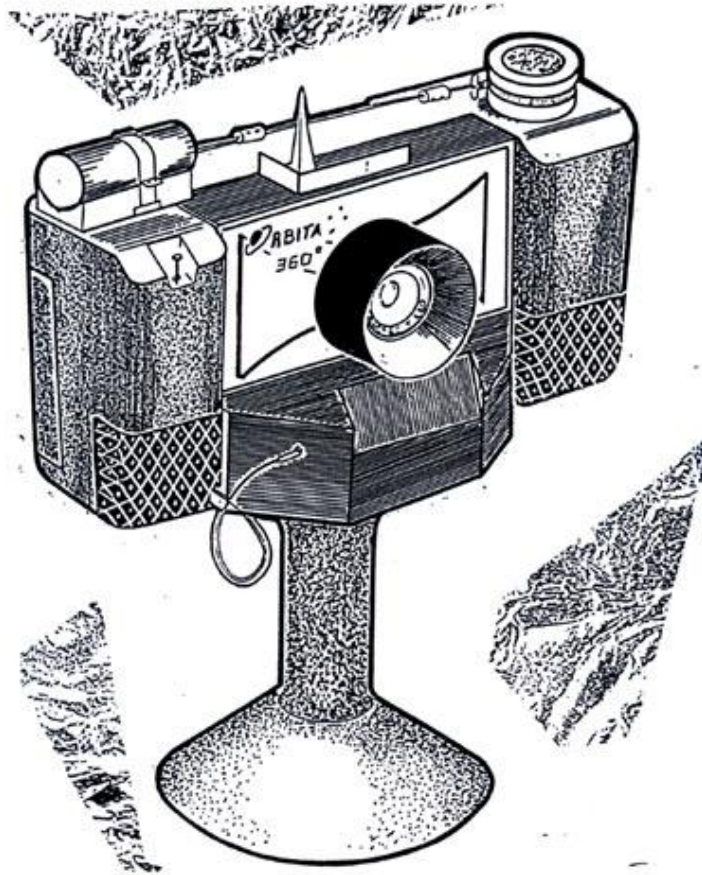
THREE-FORMAT WIDE-ANGLE CAMERA:

6 x 9cm WITH 90° COVERAGE & TOTAL SHIFT

6 x 12cm WITH 120° COVERAGE & HALF SHIFT

6 x 17cm WITH 140° COVERAGE & NO SHIFT

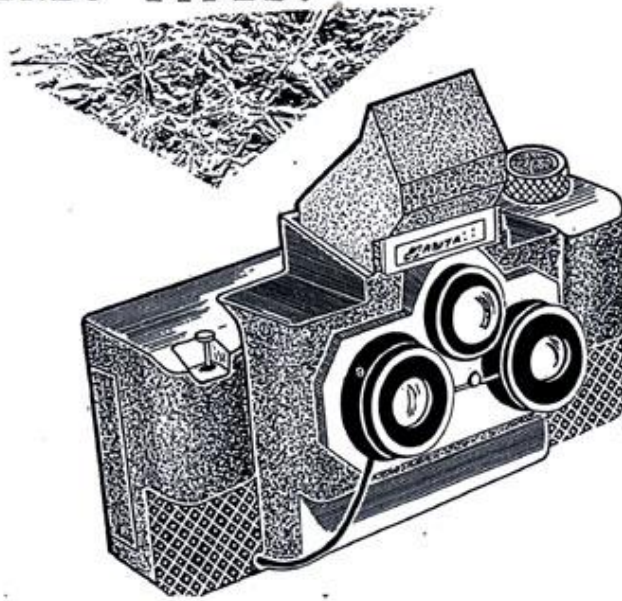
"HOLOPAN" ROUND-SHOT 360° PANORAMIC CAMERA



"HOLOPAN" :

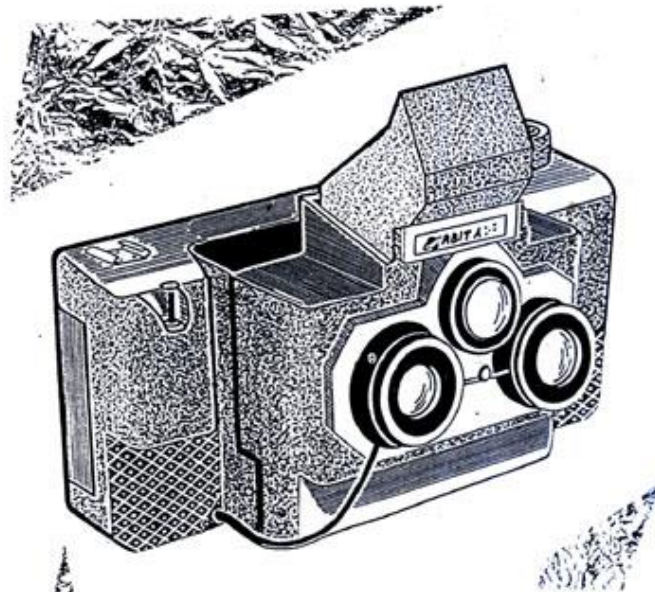
ROUND-SHOT PANORAMIC CAMERA, UP TO 360° AT 52 x 320mm PIC-  
TURE FORMAT.

STEREO TYPES :



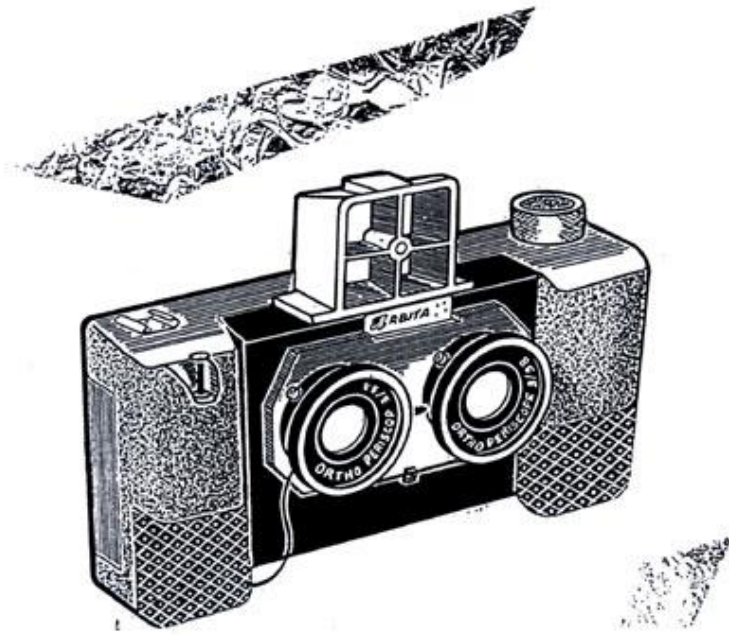
"SUPRA" :

STEREO 6 x 13cm REFLEX TYPE CAMERA WITH 75mm OPTICS, STANDARD EFFECT.



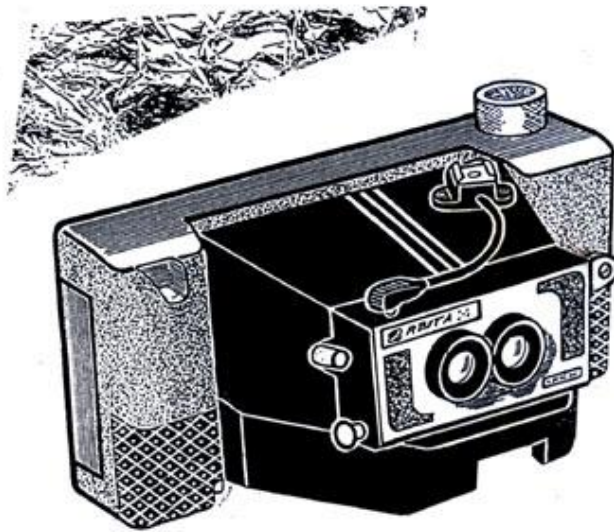
"MAGNA" :

STEREO 6 x 13 REFLEX TYPE CAMERA WITH 125mm OPTICS, PORTRAIT EFFECT.



"MELIOR" :

STEREO 6 x 13cm FRAME TYPE CAMERA WITH 40mm OPTICS, WIDE-  
ANGLE EFFECT.



"PLUS" :

STEREO 6 x 13cm, FRAMED OBJECT ("BEVOR"-TYPE) FRAMER, WITH  
70mm OPTICS, 1:4 MACRO EFFECT.

(SEVERAL OTHER TYPES CAN BE BUILT FOR SPECIAL-PURPOSE PHOTOGRAPHY)

Now some cameras of Doing-It-Yourself Generation  
Which proves a market niche for our projects

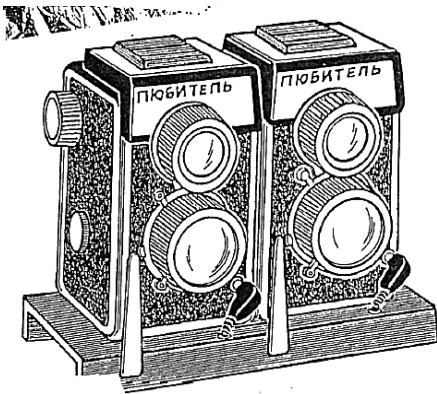


From MFcam a Sputnik stereo with wide angle Mamiya lens

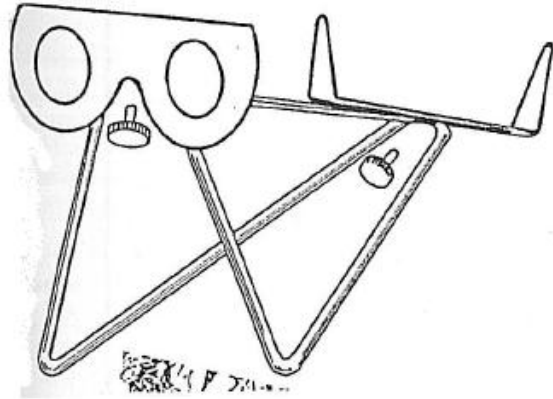




From Somakray a panoramic Super Angulon Sputnik  
Factory prototype? Below artisan cameras USSPhoto



Proposed stereo finder and Original Sputnik finder



Our own SSV2 universal stereo finder 6x13 to 10x15cm.



The original Sputnik and two versions of Sputnik 2



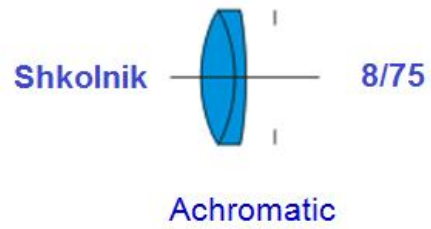
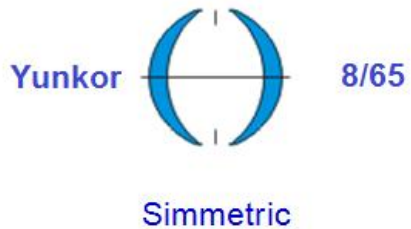


Plus....



And this factory odd ball

**These Oldies with its lenses**



**Plus this Novelty from Lomography**



Belairgon 114 and 90mm

**Let me dream about these possibilities:**



Stereo Normal

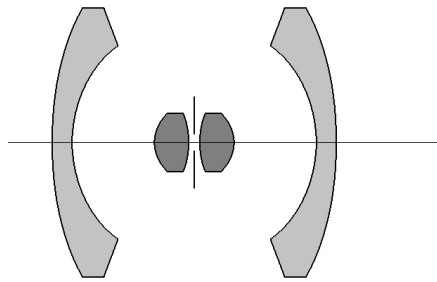


Stereo Wide and Stereo Macro



Orbita  
Super  
Wide  
120°  
53mm  
f11

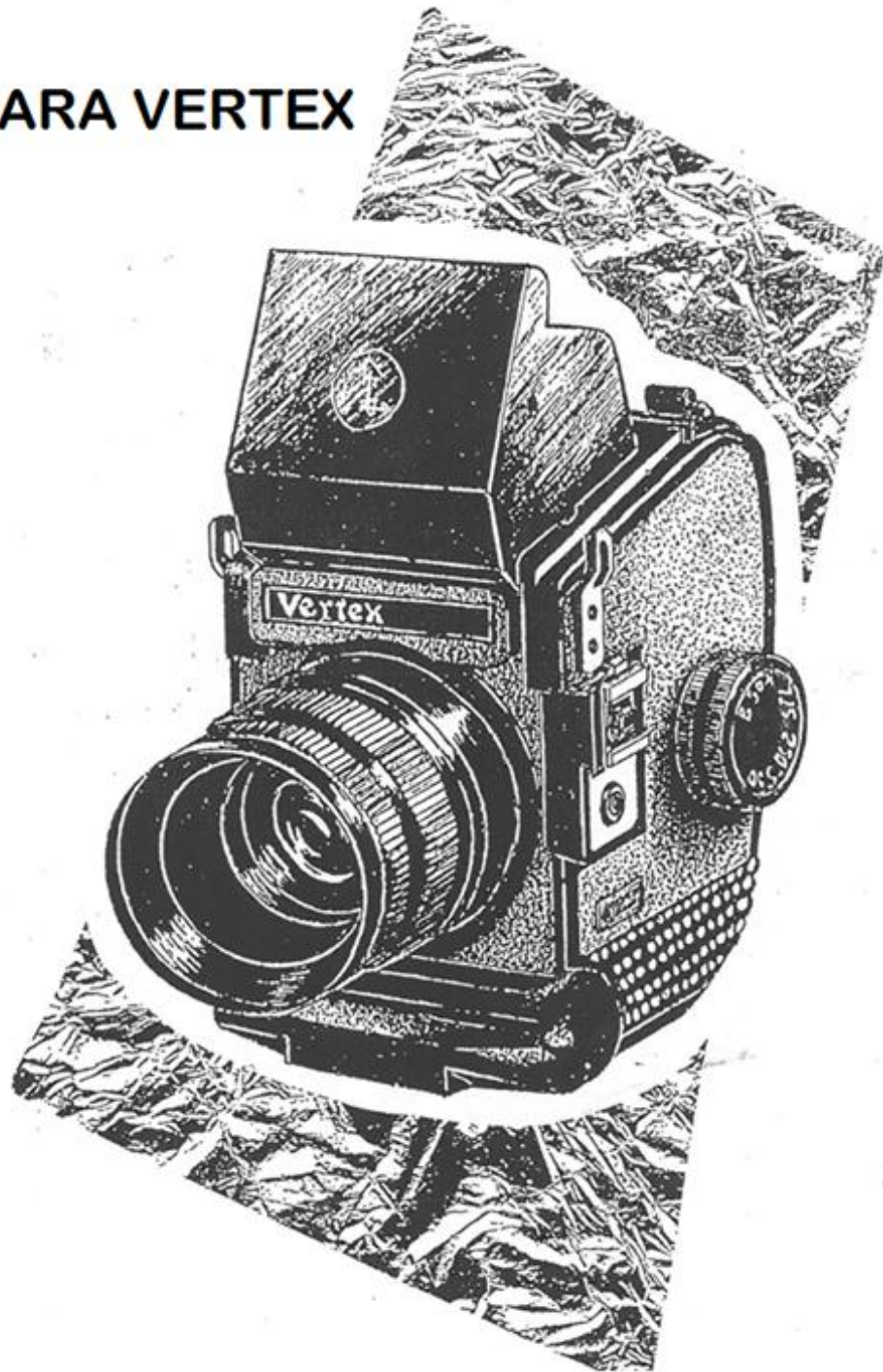






## The Vertex Camera

### A CÂMARA VERTEX



The Vertex Project was kicking my mind during several years. During this period I decided to develop this one in order to fulfill an unexplored market space. An it was born. In 1989 it was presented in th Sovetskoe Foto magazene and won a diplom. The existant model was fitted with Kiev 80 lens but our intention was to use less costly objectives. By this reason, I developed some lenses that would fit the camera and have a competitive price. The first idea was to use

already machined barrels to be used in Zenit cameras, adapting new lens elements that exeute out boot.

Now you can see what was done. Four pictures of the camera prototype itself with Kiev 88 Volna 3 lens.



Front view



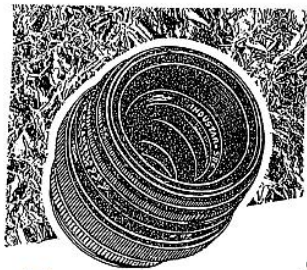
Rear and upper view



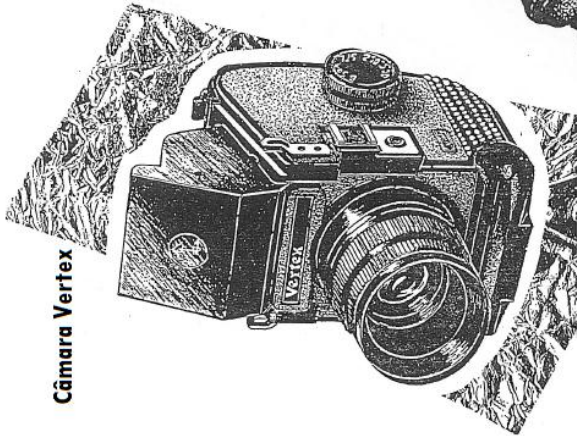
And two lateral views



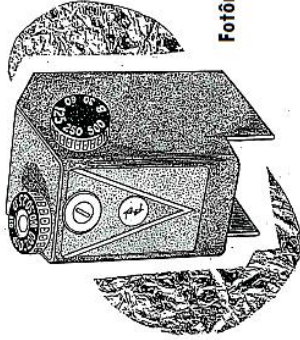
**Conjunto Básico da Câmara Vertex**



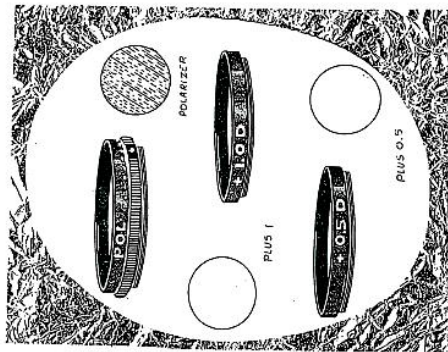
**Objetiva Normal**



**Câmara Vertex**



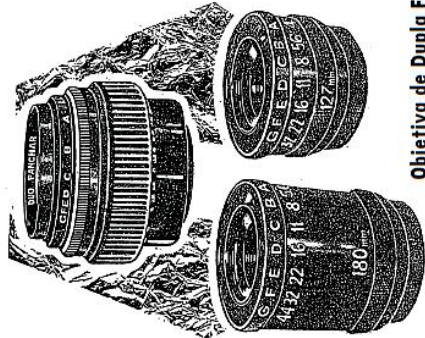
**Fotômetro (opcional)**



**Filtro Polarizador e Lentes de aproximação**



**Bolsa para transporte**



**Objetiva de Dupla Focal**



**Propulsor de cabo**

The basic Vertex system

## VERTEX Dados Técnicos

<b>Tipo do corpo:</b>	<b>Plástico moldado com partes mecânicas em metal.</b>
<b>Tipo de filme:</b>	<b>120</b>
<b>Formato dos quadros:</b>	<b>6x6 cm com 12 imagens 4.5x6 cm com 16 imagens</b>
<b>Dimensões reais das imagens sobre o filme:</b>	<b>51.9 x 51.9mm (6x6) 39.6 x 51.9mm (4.5x6)</b>
<b>Dimensões da tela do visor:</b>	<b>51.0 x 51.0mm (6x6) 38.5 x 51.0mm (4.5x6)</b>
<b>Tela do visor:</b>	<b>Lente de Fresnel com centro em microprisma e marcação dos limites para ambos formatos.</b>
<b>Lupa de focalização:</b>	<b>3x - escamoteável.</b>
<b>Obturador:</b>	<b>Espelho/Obturador e bscula com retorno aps exposio.</b>
<b>Velocidades:</b>	<b>"B" 1/30, 1/60, 1/125, 1/250</b>
<b>Avano do quadro:</b>	<b>Por boto e janela vermelha, trava contra duplas exposies e guilhotina de proteo da janela.</b>
<b>Sincronizao:</b>	<b>X e F em 1/30 com sapata quente e tomada de sincronizao.</b>
<b>Propulsor de cabo:</b>	<b>Convencional com rosca de 1/8"</b>
<b>Trip:</b>	<b>Rosca de 1/4"</b>
<b>Ala tiracolo:</b>	<b>Furo de 1/8"</b>
<b>Montagem da objetiva:</b>	<b>Padro M42x1 Flange frontal substituvel para Pentacon Six / Kiev 6 ; Zenit 80 / Saliut / Kiev 88</b>
<b>Registro da objetiva (M42x1):</b>	<b>73.9mm</b>
<b>Compatibilidade:</b>	<b>Para todas a objetivas M42 em close-up. Com teleconverter especial 1.6X todas as objetivas vo ao infinito com 1.6x de ampliao.</b>
<b>Dimenses externas: (capuchon fechado)</b>	<b>H= 130; L= 120; P= 162 em mm</b>

Technical data





## Proposed lenses:

### TRIKONAR

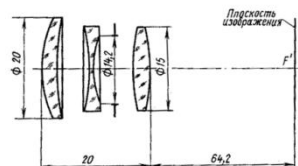


### MODULOS :



### INDUSTAR 58

### OU



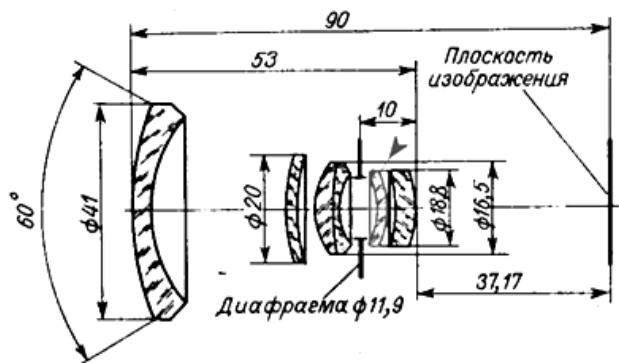
### T-35

Trikonar Normal lens constructed from Helios 44 body with two options:

Industar 58 from Iskra or T-35 from Vypel.

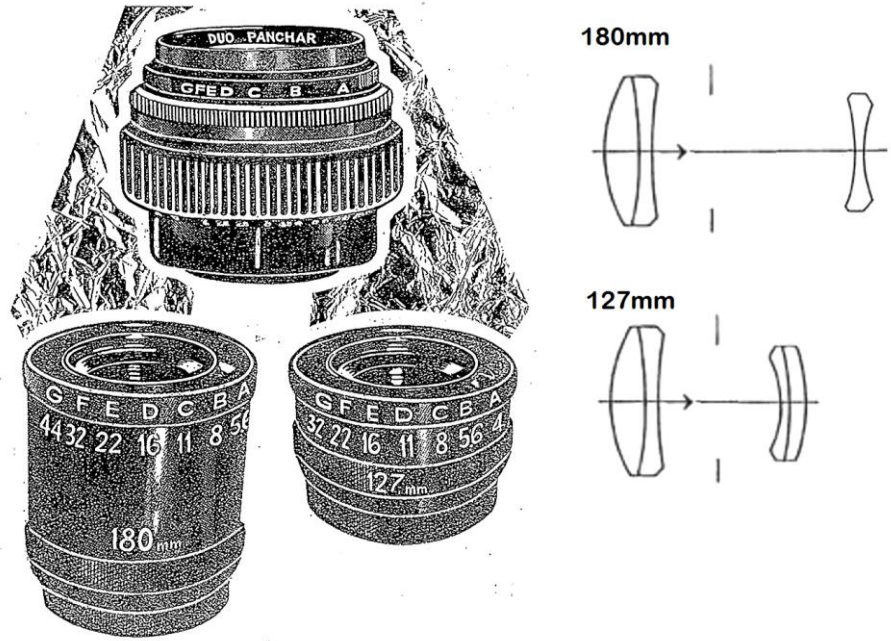


### PLENAGON



Plenagon wide angle using all components of Mir 1 but having a correction of the second rear element. 5.6/65mm.

**DUO-PANCHAR 180/127mm**



Duo Panchar double focal 180 and 127mm respectively 4.0 and 3.5 openings telephoto using Jupiter 9 complete body and a telescope lens in the front element with two special rear lenses to fulfil their focal lengths.

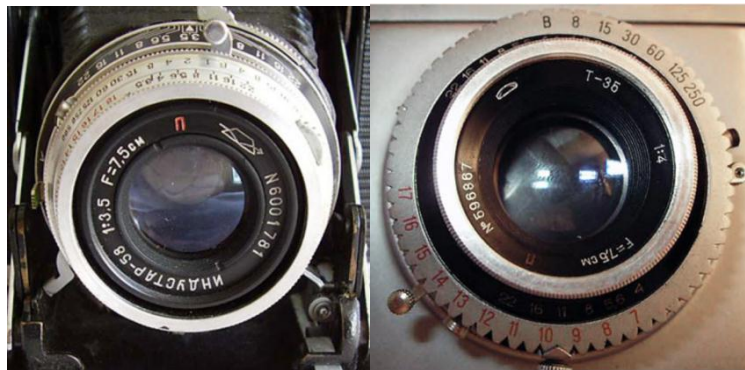
Aureole 138mm. simple meniscus lens mounted in Jupiter 9 focusing barrel and stellar diaphragm. A set of special filters controls softness.



All lenses in M42x1 enable using an extension tube to fit them onto Zenit M42 body. Also a special 1.2X tele-converter permits using all Zenit lenses in Vertex bodies with infinity focus.



Transient tele-converter for using Zenit lenses in Vertex.

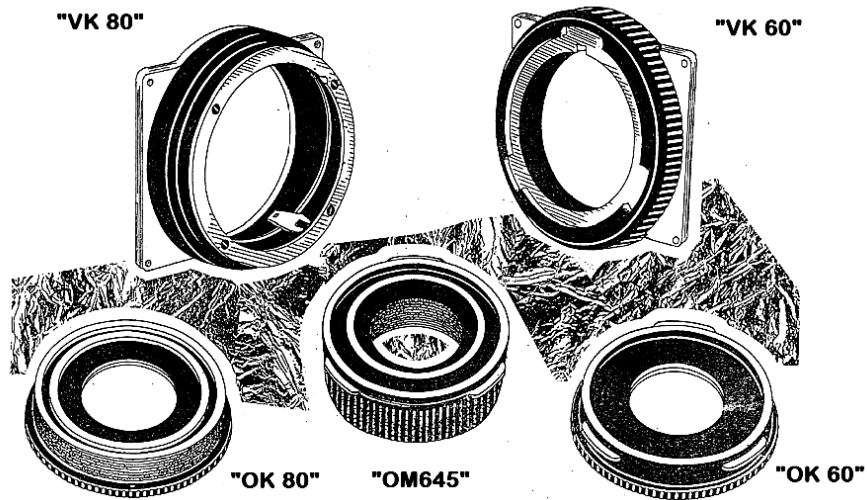


Industar -58 e T-35

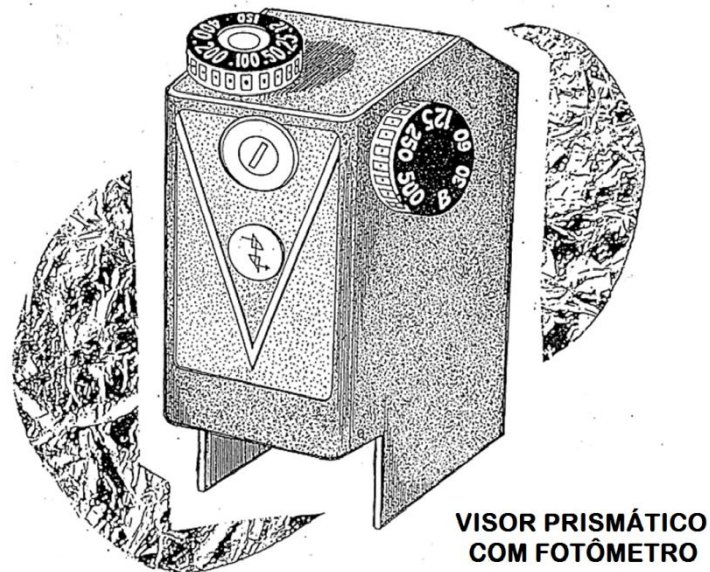


Original lenses Mir-1 Jupiter-9 and Helios-44-2

There is foreseen other project versatilities such as flange changing for mounting Pentacon Six/ Kiev 6 , Kiev 80 and Mamiya 645 lenses.



An eye level finder is also foreseen. Without pentaprism uses only lens reversing system like Dollond telescope. Its case can receive the same exposure meter from Zenit 13 camera series.



## Old pictures of the camera

Vega 12 lens









### **HEDRA the Future**

Considering a date such as the hundred years of LOMO factory I believed this could not let to be remembered. Of course a book calling old reminds is the most natural thing. I thought a step further. From the last year I decided to make a new camera to commemorate the event. This camera should not be another camera. It should be a completely different camera, a new proposal, something different of everything that existed. This camera should be popular but must also be of high class. Must be a simple equipment to be produced at a low cost. Its visual must remember the classics. The camera also must last a lifetime and must be analogical because so was formed the LOMO name.

LOMO in Russia does not produce cameras anymore, but they survive in China factories through the same name based on Lomography efforts of Matthias Fiegl Wolfgang Stranzinger and Sally Bibawy and their staff.

Besides LOMO LC-A and LC-W and LUBITEL 166 + that are true heritage of the original LOMO of St. Petersburg, they produce simple and exotic cameras, that have in common the same ideas I posted in the Smena segment during our efforts in making Brazilian versions.

Trying to make an attractive camera, I was dealing with Canon Powershot case, Minolta CLE and Agfa Optima. None of them was satisfying my new ideas. That way I abandoned the way and went to



a more classical camera. Something remembering a Leningrad or a Kiev 4. A truly classical camera. So was born the project Hedra. Why Hedra? - Hedra means Base in Greek; the base of a future the new base of a new concept.



From Canon Powershot G10



From Minolta CLE



From Agfa Optima (with LOMO 135 M lens and shutter)

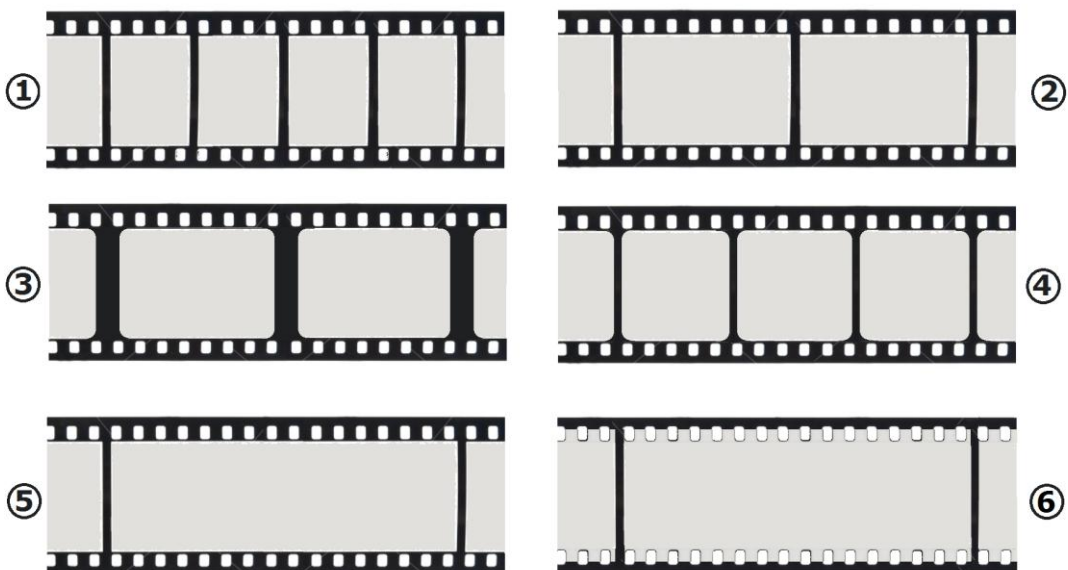
Finally we came to a Classic. A larger body for a large frame: 29x67mm in order to satisfy all formats in lomography Film advance à la Leningrad removable front for a variety of shutters and lenses including stereo, panoramic, multiple frames and round shot. Telephoto, fish eye and everything you can imagine!

The Hedra became the Smena 100.



### Camera preview

The Hedra project is a camera in its own way. Its project is absolutely unique similar to none. Its large frame format 30 x70mm is at same time compatible with both worlds 35mm and 6x6 cameras. At your choice Hedra can shoot in the 18x24, 24x36, and 30 x67. And the "showing sprockets" formats with 30mm width. Shoots conventional, panoramic, stereo, multiple frame, sequential, multiple focal length in a single shot, with any focal length lens through an easy change of masks and front plates.



## The six frame sizes of Hedra camera

- 1) Half frame format 18x24mm or stereo 4x 18x24mm
- 2) Standard 24x36mm
- 3) Stereoscopic 2x 24x32mm
- 4) Three images stereo or individual pictures 3x 24x23mm
- 5) Panoramic size 2x68mm
- 6) Super Panoramic 24x70mm (diagonal 75mm)

With the standard 24x36 size we can apply classical camera layout and special lensed display of Lomography cameras such as Super Sampler, Action Sampler, Octomat, POP 9, Holga 135 TIM, and three types Robot Disderio .

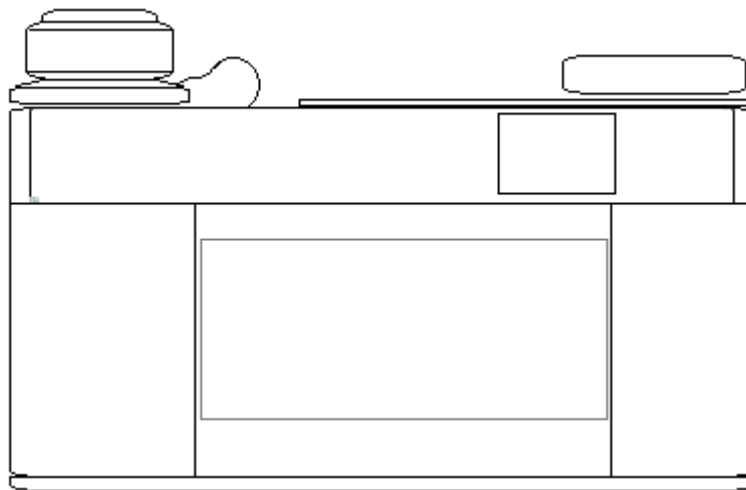
With Super Panoramic size we can apply the Nimslo four lens system, the three lensed Image tech and the large Rensha Cardia display. Also a four lens system combining two details, a panoramic and a side telephoto detail picture as shown in the under view picture.



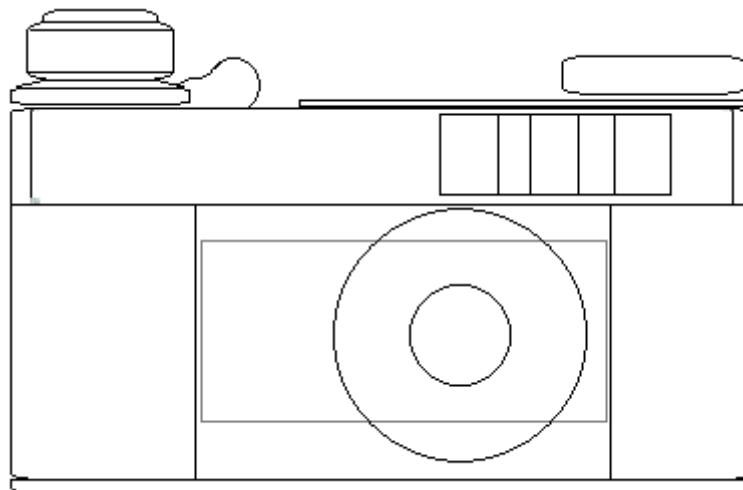
The extra thin body opens capabilities to use small focal lengths lenses from LOMO LCA, LC-W, Chaika and Agat. The large size throat permits a great variety of shutters with a good choice of mechanical mountings. The largest possible diagonal of frame turns it compatible to everything available in the market lens and shutter combinations. An extreme simplification of its mechanics allied to a good choice of materials turns it reliable and indestructible. Everything at the size and a look of a Classic. A camera to grow-up!

We propose two type of shutters: The Lubitel shutter for the higher class and the Holga shutter for a low cost camera. An extra top class could use the Seagull 4 shutter, of course other types could

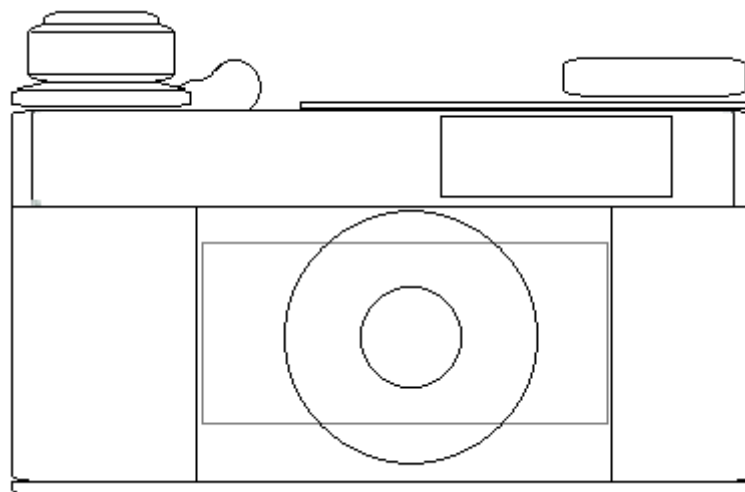
eventually be used. With such shutters, we have immediate the following.... See the schematic mountings:



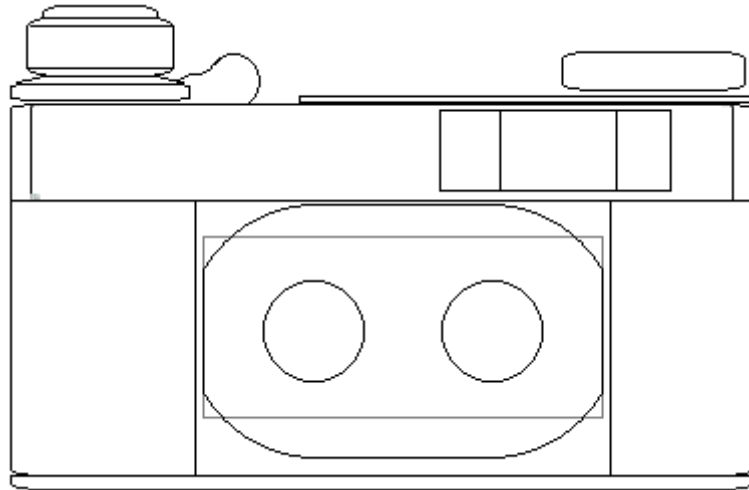
Showing the large mouth



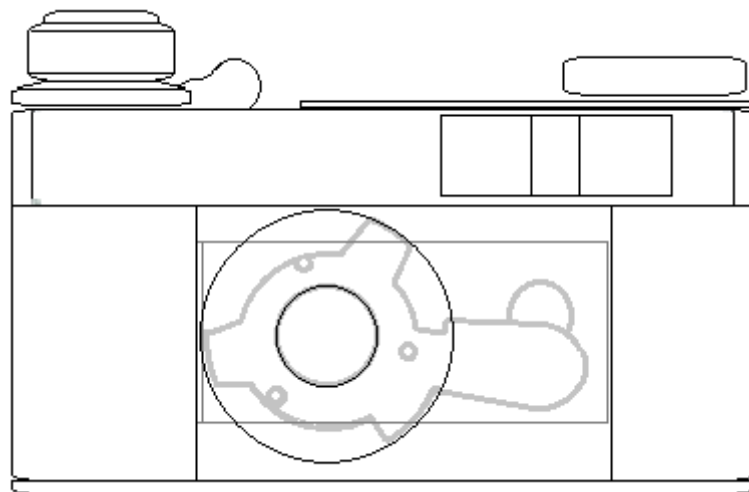
Shutter mount for single frame



Shutter mount in panorama mode



Stereo shutter mounted on camera



Shutter mount for very small lenses

**Lens borrowing capabilities... and accessory system access:**



LOMO LCA and LOMO LC-W



Smena series and LOMO 135 VS or M



Lubitel 166 and La Sardina



Sprocket Rocket



Chaika and Agat



Fisheye and Diana Mini





Holga 35 and Holga 135 TIM

**... and adapt theses lens/shutter combinations to new functiona:**



Super Sampler and Octomat



POP 9 and three types Robot Disderio Action



Action Sampler and Nimslo



*Nishika and Image Tech*



*Fuji Rensha Cardia two models*

**... and accessory system access:**





*Holga Fish-eye lens*



*Holga fish-eye finder*



*Holga Wide angle Converter*



*Holga Telephoto converter*



*Holga macro lens kit*



*Holga Close-up lens kit*



*Cable release*



*Holga Fish-eye lens FEL for HL series*



*Holga HL lens series 25 and 60mm and Pinhole*





*Tunnel lens with macro and Wideangle for LC-A*

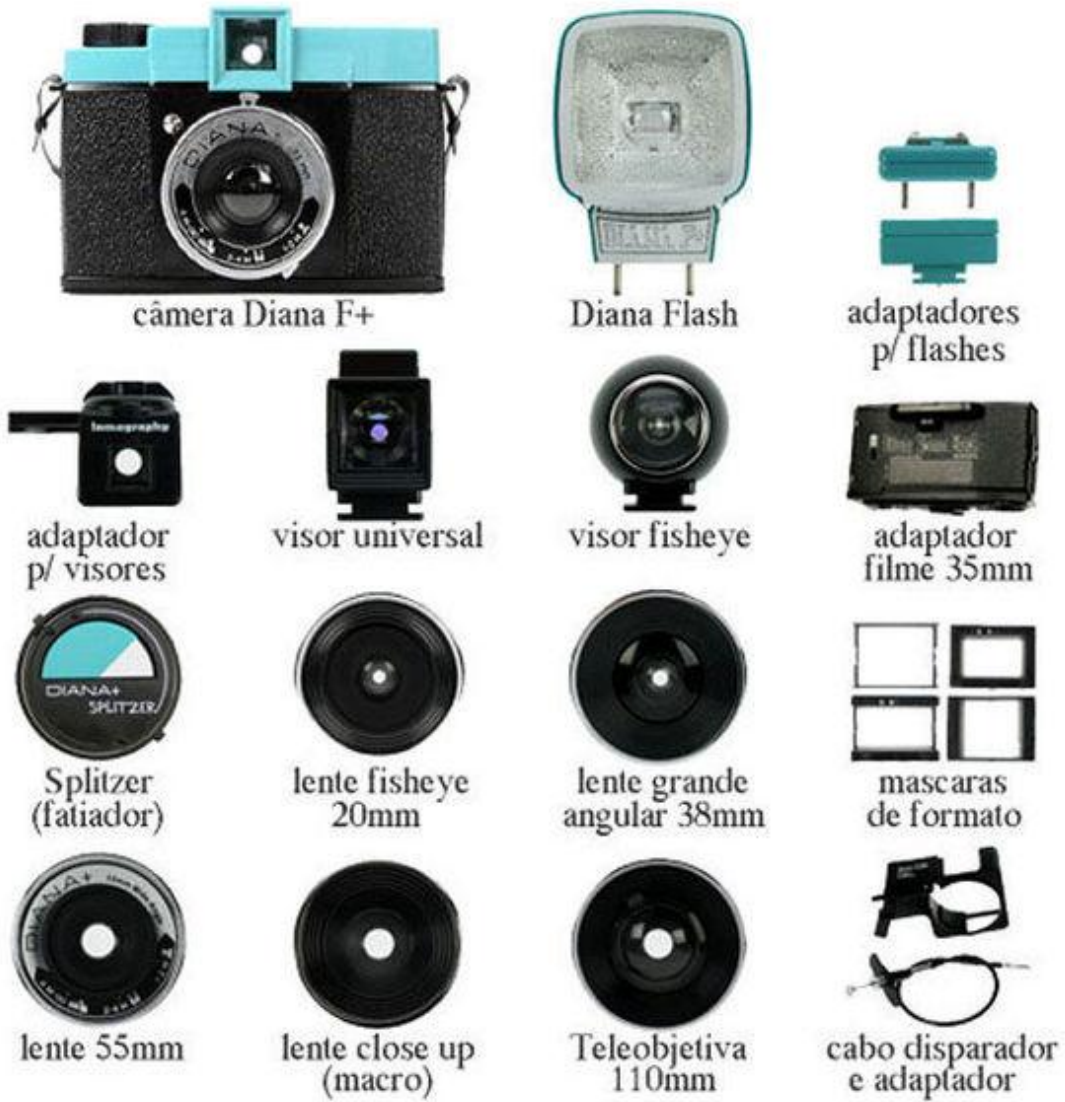


*Universal wide angle and macro lens*



*Holga filter kit and flash*





*The Smena 100 (Hedra) has compatibility with Diana Lens System through the change of front panel.*



*Diana F+ Camera*



*Diana Strobe*



*Strobe Adapter*



*Universal Finder*



*Fisheye Finder*



*Splitzer*



*High quality standard lens*



*Diana F+ 20mm Fisheye Lens*



*Diana F+ 38mm Super-Wide lens*



*Diana F+ 55mmx Wide-Angle and close-up Lens*

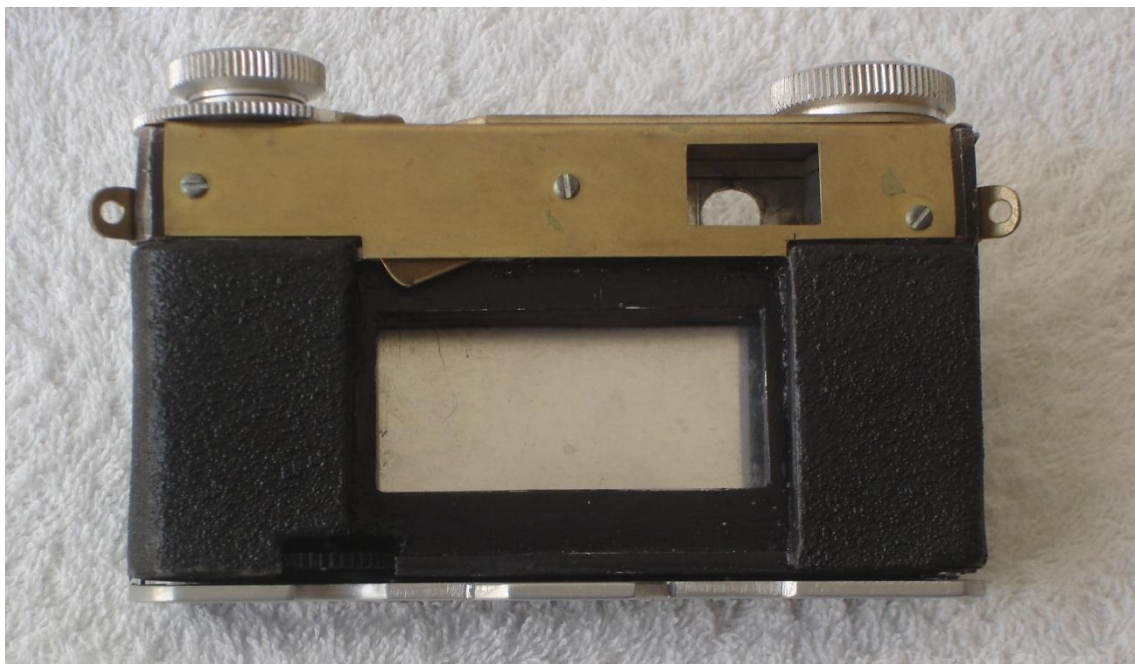


*Diana F+ 110mm Telephoto Lens*



# The HEDRA Body and construction.

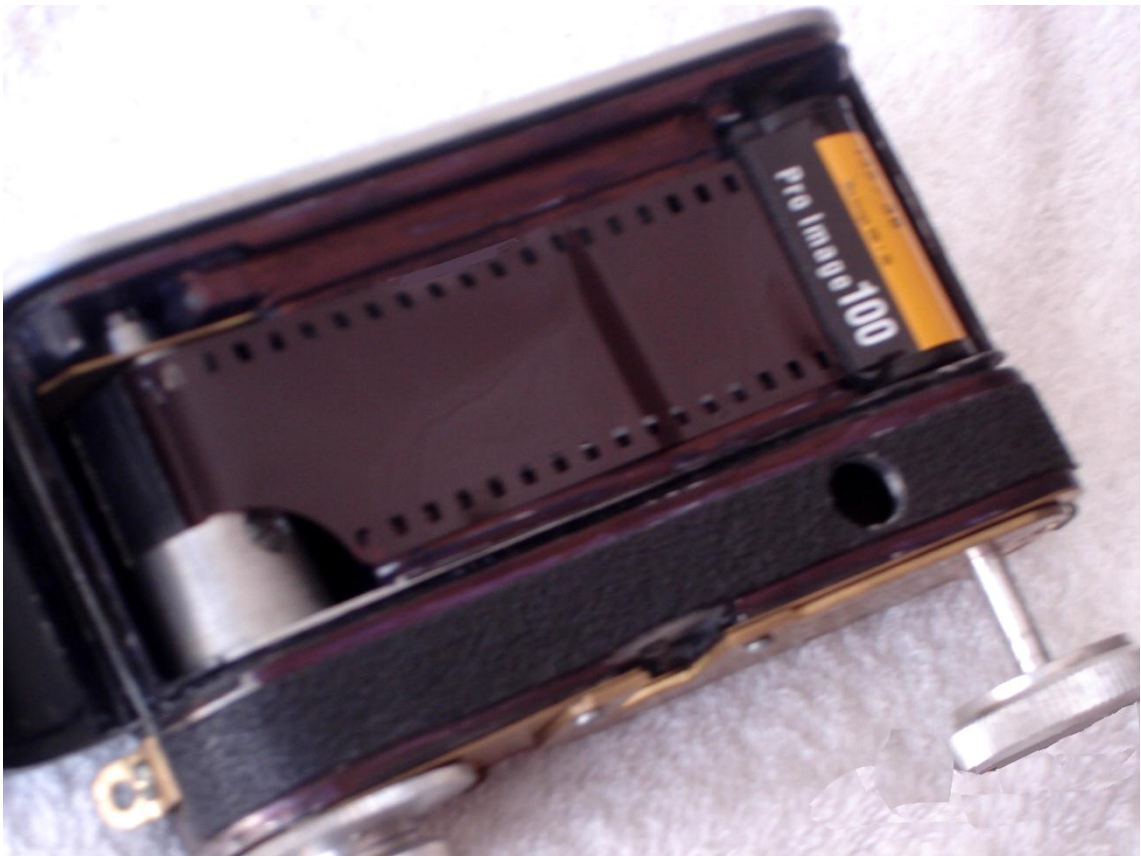
## Hedra means Base

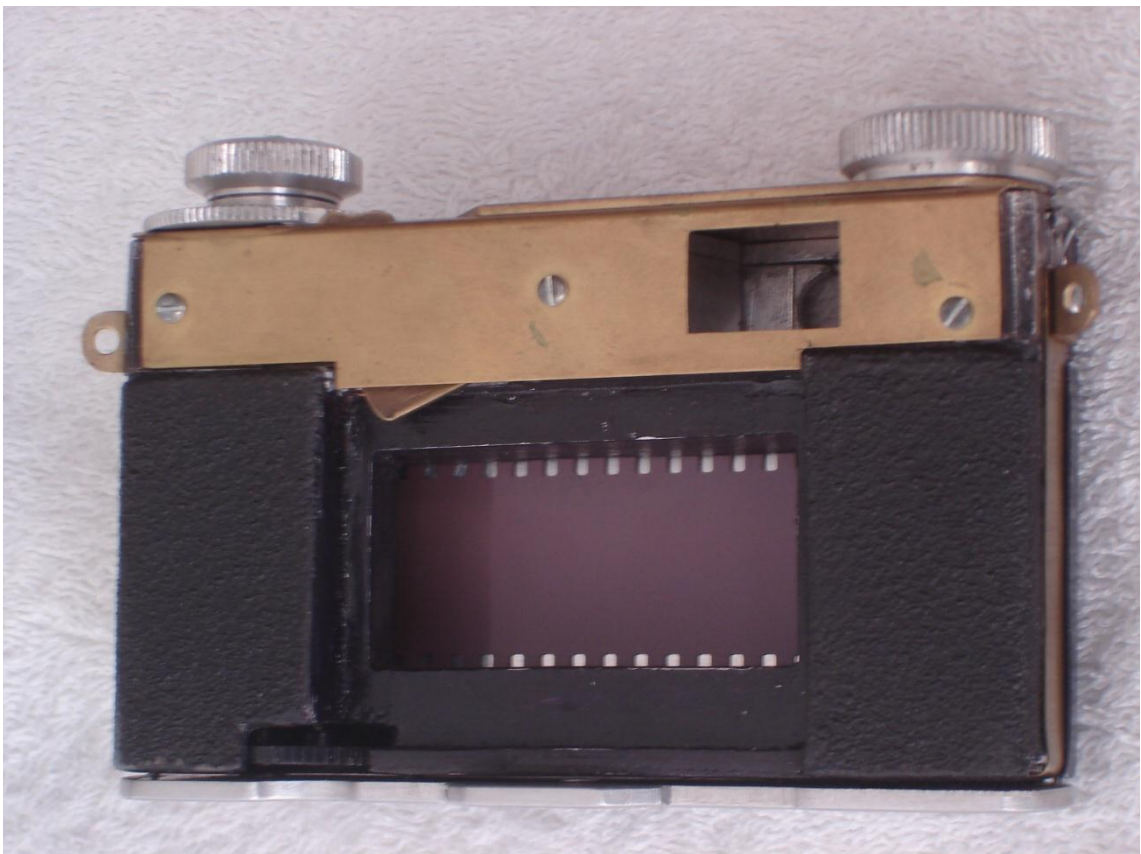
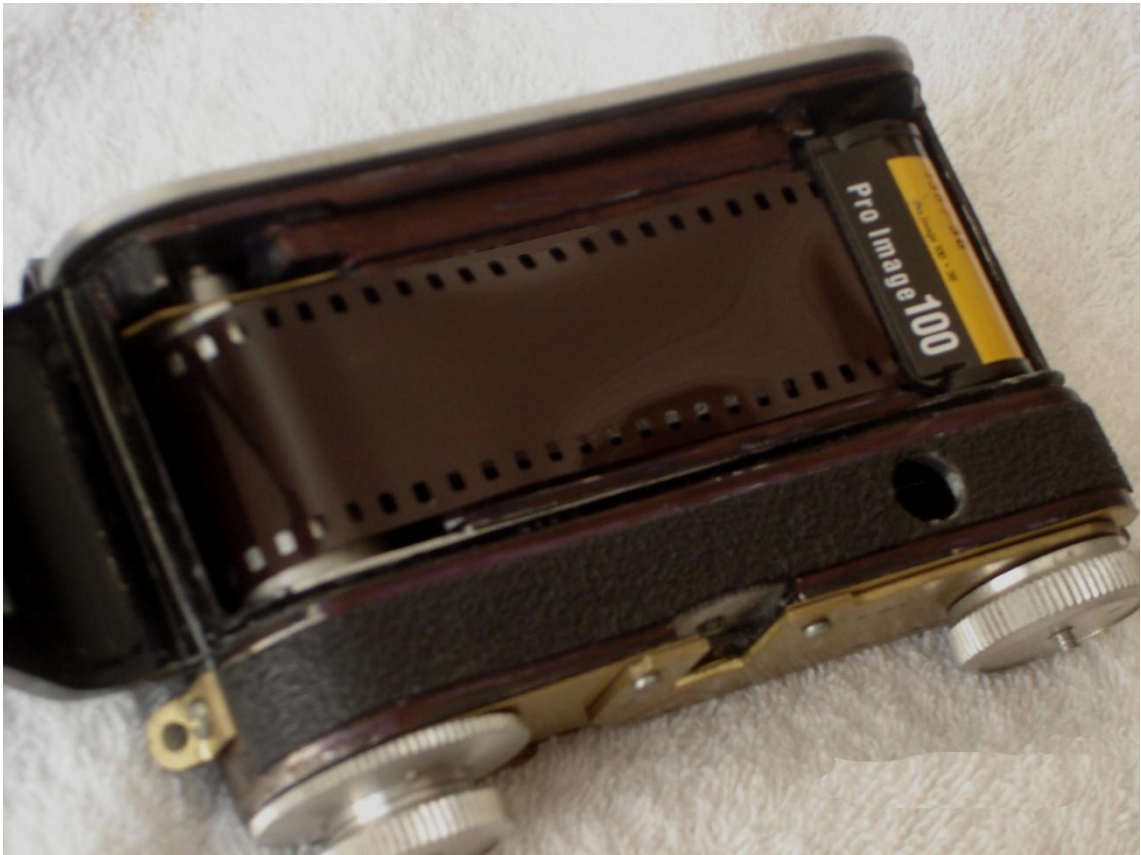


Extra thin front plate-to-film only 18mm.

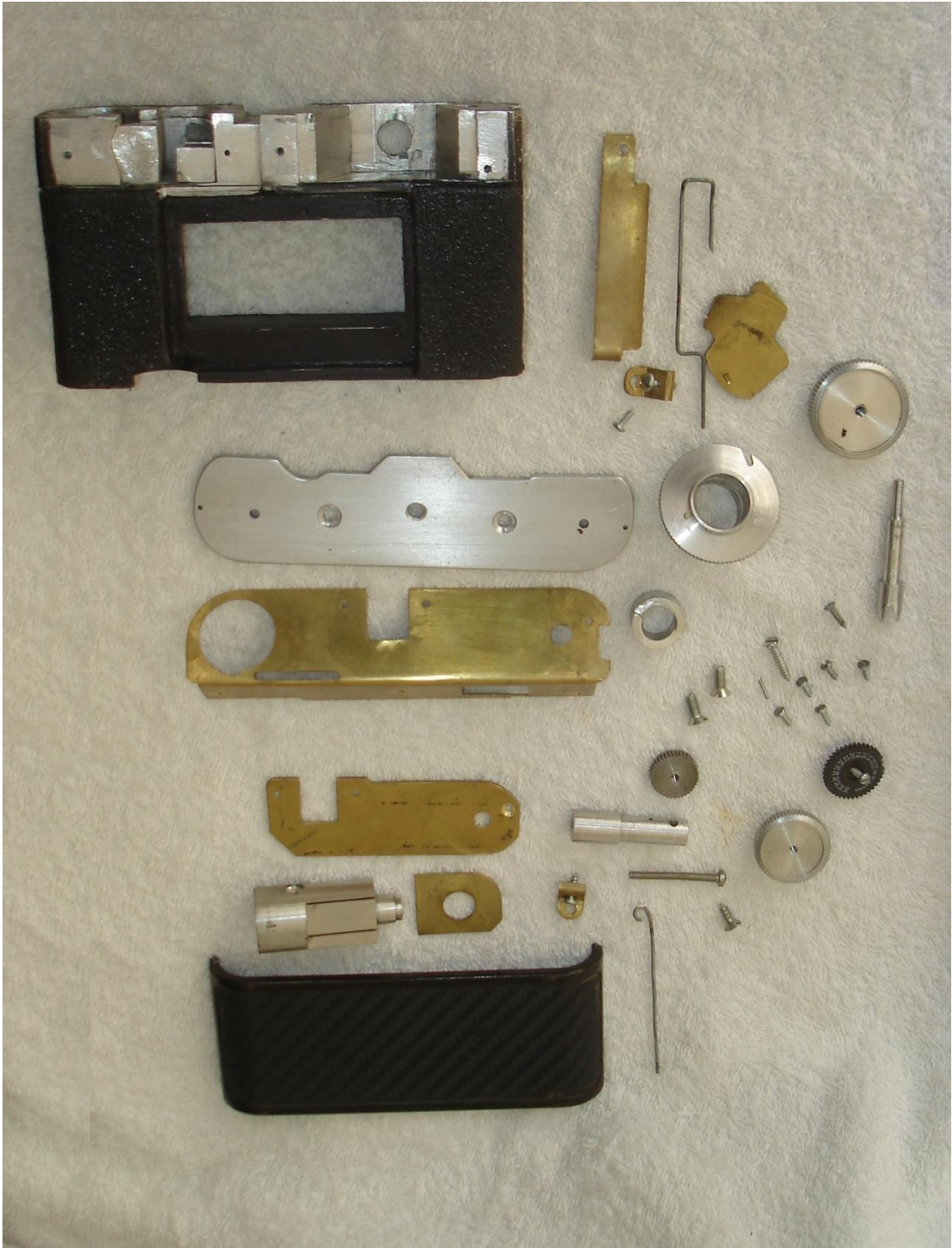








Film in large frame (30x70mm) without masks.



Complete set of body parts without springs.

No shutter or lens.