INSTRUCTIONS

FOR THE

KONI-OMEGA® *"Rapid"*

Warranty Card lost - found in JAN '68 + mailed in

KONI-OMEGA® "RAPID"

North Park Camera
3837 - 30th ST.
San Diego, Calif

September - 1967

Capt. W. T. Clapham - USNR

Body # 12002

90mm Lens # 374686

1 Rubber Eyepiece
Flash Cord - 3' Coiled

This camera.....

...conceived and designed by the engineering department of Simmon Brothers in Long Island City, New York.

...perfected, production engineered, and manufactured by Konishiroku Photo Industry Co., Ltd. in Tokyo, Japan,

...made for professional photographers all over the world,

.....is dedicated to international friendship.

We wish to express our appreciation to the thousands of satisfied owners of the original Omega 120 camera (discontinued in 1958) who urged us to bring out this new, improved model, and who were generous to us with their suggestions and advice. We hope that the KONI-OMEGA® "Rapid" fulfills their every expectation.

Our particular appreciation goes to Dr. L. Weisglass, Vice President of Engineering in charge of Simmon Brothers Research & Development, who has been associated with this camera project for over 15 years, and to Mr. O. Miki, Chief Engineer in charge of the Special Products Department, and Mr. Z. Kurita, Design Manager, both of Konishiroku Photo Industry Co., without whose splendid cooperation and many strenuous trips to the U. S. A. this camera could not have been completed.

THE STORY BEHIND THE KONI-OMEGA® "RAPID"

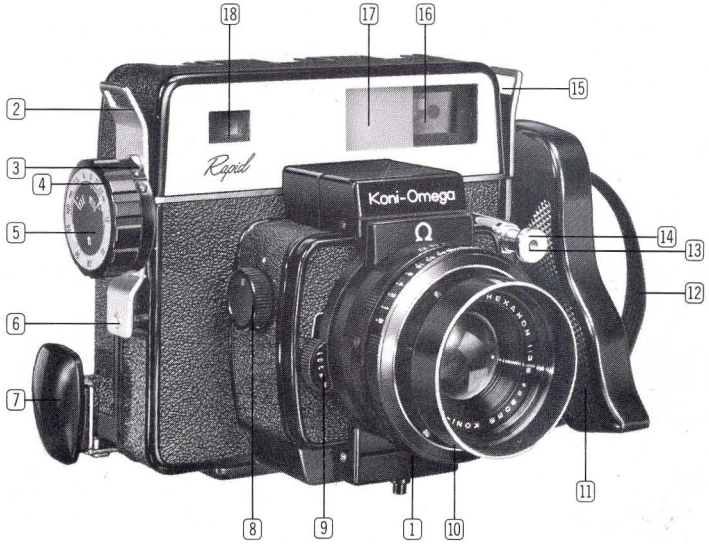
The original Omega 120 was developed at the suggestion of the U. S. Navy in the 40's. There was a need for an all-around, lightweight rugged and reliable professional camera which was as convenient to use as a 35mm camera, but which would offer the advantages of large 120 size negatives.

The original Omega 120 was a technical success but a commercial disappointment. Strangely enough, when it was discontinued in 1958, the increasing popularity of Kodacolor and other color films created a continuous demand for this very camera because 35mm color negative just was not satisfactory for many types of professional work. True, there were and are many good single and twin lens reflex cameras using 120 film, but reflex cameras are not the best answer for many types of photography.

Ever-increasing labor costs and ever-higher lens and shutter prices made it impossible to manufacture the camera again competitively in the U. S. A. In looking for a manufacturer abroad, we were fortunate to get together with Konishiroku Photo Industry Co., Ltd. (a company which started making cameras in 1882), one of Japan's oldest and most prestigious photographic manufacturers. With over 4000 employees, Konishiroku not only manufactures the famous Konica cameras, but also the equally famous Hexanon lenses, as well as sensitized products.

Thus, Konishiroku could supply our mechanical and optical needs, and in addition, could contribute much experience as a camera manufacturer.

THE KONI-OMEGA® "RAPID" NOMENCLATURE



1. M-X Flash Synchro-Selector
2. Neckstrap Eyelet
3. Distance Scale for Standard Lens
4. Distance Scale Markers for Wide-Angle and Tele Lenses
5. Focusing Knob
6. Flash Bracket Retaining Pin and Cover Bar
7. Film Advance Lever
8. Safety Shutter "open-close" Knob
9. Lens Mount Lock And Release Lever
10. Telescoping Lens Hood
11. Grip
12. Safety Strap
13. Cable Release Socket
14. Shutter Release
15. Neckstrap Eyelet
16. Viewfinder Window
17. Frame Line Illumination Window
18. Rangefinder Window

1 Flash Cords
2 Sports Finder
3 Flash Brackets
4 Cover For Quick-Change Back
5 120 Quick-Change Back
6 Filter Retaining Rings
7 Telephoto Lens
8 Wide Angle Optical Finder
9 Wide Angle Lens
10 Normal Lens Case
11 Wide Angle Lens Case
12 Telephoto Lens Case
13 KONI-OMEGA® W/90mm Lens
14 Auto-UPS
15 Eye-Cup
16 Cable Release
17 Carrying Case
18 Neck Strap

HOW TO USE YOUR KONI-OMEGA® "RAPID"

The KONI-OMEGA® was designed for easy, simple operation. Chances are the experienced photographer can "figure out everything" without reading the operating instructions. Nevertheless, we strongly urge you to take the time to read them. Only a few minutes now can save you time and trouble later. The instruction sequence used to acquaint you with your new KONI-OMEGA® "Rapid" corresponds to actual use routine.

FILM USED:
- 120 or 220.
- 120 film yields 10 exposures, 2-1/4" x 2-3/4".
- 220 film yields 20 exposures, 2-1/4" x 2-3/4".
- 2-1/4" x 2-3/4" is the same proportion as 4" x 5" or 8" x 10", the most commonly used format for the professional. Hence, this proportion makes maximum use of film area.

PRELOADED QUICK-CHANGE BACKS

Instead of loading the roll film into the camera as it is done with most other cameras, it is loaded into the detachable back. This permits the photographer to carry extra loaded backs along and quickly interchange them when in action (for instance at weddings!). During periods of lull, he can leisurely reload the extra backs.

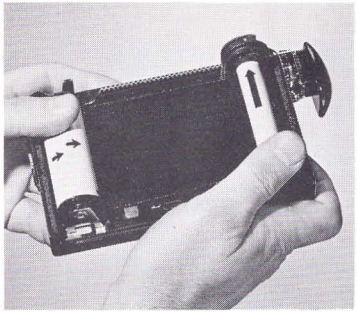
LOADING

Removing Back: LOAD must be visible in film counter window. Be sure that film transport lever is fully pushed in. Lift latch on back cover and turn counter-clockwise from "L" (lock) to "O" (open). Lift back by spreading fingers across entire back and grasping. Do not lift by latch or film advance lever.

Loading: Do this preferably in subdued light or at least in shaded location. Make sure "LOAD" appears in film counter window. If not, move the film transport lever through its cycle until this position is reached.

Tear off tab from film box and insert it in window of back for future identification. For easiest and fastest loading, the back is best held in the left hand with the transport lever at the upper right. Now with the right hand, lift empty spool out of "feed" side by pushing against upper spool holder and place it onto the take-up side in the same fashion. Turn take-up spool on its right flange toward feed spool until the long film slit faces the feed spool. Put new roll film with seal unopened on feed side, so that the black part of the paper leader will face you when opened. Remove the seal strip which holds the film roll together completely and discard it. Take pointed paper starter and insert into long film slit. Turn flange of take-up spool with right thumb to take up paper leader.

Make sure that paper is perfectly centered between spool flanges. (NOTE: Particular care regarding centering must be taken with Kodak film, because of its "skived" paper leader and trailer.



However, we understand that Kodak will soon discontinue skived paper on 120 film and use straight paper instead.

Also make sure that the paper on the take-up spool is rolling up tightly. If necessary, you can tighten the started roll by turning the take-up spool with the right thumb, while braking the feed spool with left thumb. (See illustration)

120 Back: Continue rolling up the paper leader with the left thumb against the feed spool flange until the metering arrow on the paper backing of the film is lined up with the red dot on the rim of the TAKE-UP mechanism.

220 Back: Continue rolling up paper leader with the left thumb against the feed spool flange until the metering arrow on the paper backing is opposite the red mark on the upper spool holder of the FEED spool mechanism.

Now the back is loaded and can be locked onto the camera or onto the protective cover (which is supplied with each spare back) for later use.

The above routine takes only a few moments after you have done it a few times.

Attaching Back: With camera in left hand and facing downward, hold back with right hand either on plunger handle or by spreading fingers across its widest dimension, and drop gently into place. Turn lock clockwise until 'L' is next to the red dot. The back will only fit if properly located. Fold latch lock flat with back. DO NOT FORCE ANYTHING!

IMPORTANT: Be Sure Counter Window Reads LOAD When Attaching Back.

SPECIAL ATTENTION should be paid to have the film start tightly onto the take-up spool. This will prevent "mushy" looseness of the film on the take-up spool, which could cause the last part of the paper trailer to "spill" over the rim of the take-up spool at the end.

Tight winding can easily be achieved by holding a finger on the feed spool flange causing the paper leader to release slowly onto the take-up spool, and enabling a degree of tension to exist between feed spool and take-up spool.

The film advance lever should be operated at moderate speed. Excessive speed in pulling the advance out can give a slight extra "spin" to the take-up spool. This will increase the spacing between exposures and could cause partial loss of the last frame. Using a tight wind-up and moderate motion of the film advance lever assures you of proper spacing and ten or twenty good exposures.

HOW TO HOLD CAMERA

It is very important to hold camera properly in order to enjoy the "human engineering" that has been incorporated into it.

Left hand: The left hand holds the camera grip, with the thumb pressing against the thumb rest, the index finger over the shutter release, and the other three fingers encircling the grip. It is even desirable to have the little finger below the grip with the nose of the grip sticking out between the fingers. (see illustration) It is very important to have the left hand low enough on the grip to have the index finger on the release button. Do not use the middle finger to release shutter under any condition, but force yourself to get used to the recommended way. A camera is only a tool and the "feel" of every tool must be acquired through use.

Security Strap: The purpose of the security strap is not to tighten the hand to the camera, but only to protect against accidental dropping and to permit the fingers to relax when carrying the camera downward when not in use. The strap must be very loose to permit the hand and the wrist complete freedom of movement, in regard to grip and release button.

Adjustable Grip: By opening the coin-slotted screw, the angle of the grip can be varied to suit individual hands. (Because the size of hands and the length of fingers differ so widely between individuals, it is impossible to design a grip which is "perfect" for everybody. The grip and its bracket can also be completely removed if desired.)

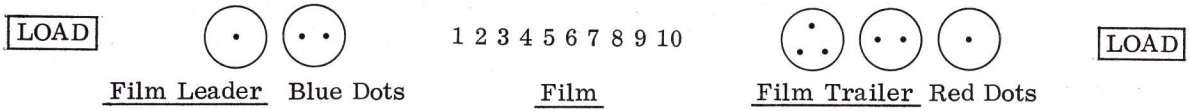
Right Hand: The right hand supports the camera by having the tapered head of the film transport plunger press against the heel of the palm. Thumb, index and middle finger hold focusing knob. In this fashion, the camera weight is nicely distributed, well balanced and ready to focus and shoot. (See illustration).

The film can easily be transported without removing camera from eye and losing sight of subject. The right hand slides down conveniently to engage the transport lever and goes back into holding and focusing position after film is transported. When flash gun with battery case is attached to camera, the right hand may also support the camera by holding onto battery case.

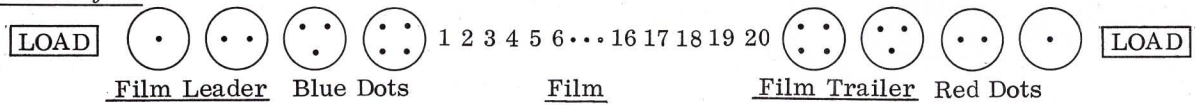
Third point of Support is the right cheek. The camera is designed for right eye sighting. The nose clears the finder housing and rests against left thumb. (When sighting through wide angle or sports finder, the right side of chin presses against back of camera).

TRANSPORTING FILM

120 Film Cycle



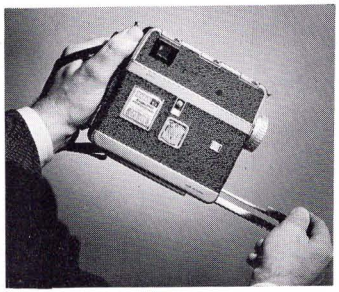
220 Film Cycle



After film has been loaded and back attached to camera the film transport lever must be actuated three times (120 film) or five times (220 film) to bring frame #1 in place. When #1 appears in film counter window you are ready for the first exposure.

How to Work the Film Transport Lever: With the first three fingers of the right hand holding plunger head, pull out lever in an even, fast stroke until it hits the end stop, then push back as far as it will go. (See illustration) Note: the plunger position varies with the counter cycle. It goes all the way in on #1 and 2; it stays a little further out at #3, 4, and 5; still further out at #6, 7, 8 and 9, and goes all the way back on #10. A similar cycle applies to 220 film.

This is normal and is related to negative spacing. The rapid transport mechanism cannot give identical spacing between all negatives, which varies depending on frame number.



Film End Warning Signal: To prevent "shooting on paper" the film advance lever automatically locks the transport mechanism after the 10th exposure (120 back) or the 20th exposure (220 back). To unlock and take up paper trailer before removing back and reloading - move the override release button in top center of back upward while pulling out film advance lever.

Thus, the photographer who works under pressure and forgets to look at the exposure counter is reminded that he is out of film and prevented from shooting blanks.

Maximum Flatness of Film Plane: One of the greatest problems with roll film is maintaining maximum flatness of film plane in the camera. The KONI-OMEGA "Rapid" uses an exclusive pressure plate system which was proven in the original Omega 120.

The film is pulled from feed spool to take-up spool in a straight line without tension and without touching anything. The film pressure plate stays retracted during the transport cycle. Only shortly before the exposure is made is it pushed firmly against the film and holds it with maximum flatness against the camera film plane. This is accomplished by having the shutter release stroke linked to the pressure plate. It is so adjusted that the initial travel of the shutter releases tensions the pressure plate and only at the end of the stroke fires the shutter.

Automatic Shutter Cocking: Actuating the transport lever automatically cocks the shutter of all interchangeable lenses. Thus it is impossible to double expose accidently. (However, it is possible to make double exposures by cocking the shutter itself manually.) A color signal located between the adjustment rings near the bottom of lens is visible when shutter is cocked.

How to Operate Shutter Release: It is important to trigger the shutter release with slow, firm pressure, similar to firing an aimed rifle.

It can also be used with a special cable release (available as accessory) which attaches to it.

The shutter release is automatically blocked when interchanging lenses to prevent blank exposures. See "Interlocks" under "Changing Lenses". DO NOT FORCE IT.

CAUTION: When used with cable release, shutter release is NOT blocked by interlock during interchanging of lenses. Therefore, after interchanging of lenses be sure to open protective curtain with safety knob.

RANGING AND VIEWING

The KONI-OMEGA "Rapid" Features these advantages:

- Combined Range and Viewfinder
- Long base for maximum accuracy
- Automatic coupling of normal, wide angle and telephoto lenses
- Automatic parallax correction for normal and telephoto lenses
- Automatic angle of view correction for normal and telephoto lenses

The rangefinder is of the superimposed type. The ranging area is the bright rectangle in the center of the frame. If under poor light conditions it should be difficult to discern it, it is suggested that the right hand be moved a few times over the small rangefinder window while looking through the finder.

The field of view of the normal lens is delineated by the large luminous frame, the telephoto's by the smaller. Both frames change their positions and area depending on distance focused on (automatic parallax and angle of view compensation). The telephoto frame disappears when normal or wide angle lenses are in the camera and are focused at closer distances.

The lenses are color coded with different rings, which are visible on the rear of the lens hood, through the finder. Another safety feature to prevent wrong framing! (See Lenses: Color Coding)

SPECIAL ATTENTION: The luminous frame lines are positioned nearest the center axis of the lens and reflected into the single range-viewfinder window. By positioning your eye in the direct same line as the camera's lens is pointed, all four lines will appear equally bright and the range-finder rectangle will be clearly defined in the center.

If your eye is not "in line" with the lens, the rangefinder rectangle will disappear, the frame lines will only be partially visible and the image area seen by your eye will not correspond to the image area on the film. Thus, you will be alerted to adjust "eye to camera position" so that your eye is aimed exactly the same way as you are aiming your camera's lens.

AUXILIARY FINDERS

Wide Angle Finder: This is an optical finder of the Albada type which shows the wide angle field within a luminous frame. It must be attached to the center finder shoe, to eliminate all horizontal parallax. A vertical parallax adjusting mark is visible in the upper corners of the finder. It applies for distances closer than 6 feet.

The wide angle finder has a red color coding ring to tie it to the wide angle lens. This finder comes complete with protective case, and being a fine optical instrument, it should always be kept there when not in use.

Universal Sports Finder II - This finder is collapsible and fits conveniently in any carrying case. It is attached to the center accessory shoe and locked securely in place with a thumb screw. The eyepiece features vertical click stop parallax adjustments.

The finder shows the field of view of the 180mm lens and the 90mm lens. The frames are color coded and this coding is visible through the eyepiece so that the proper frame is used with each lens. The 180 mm Tele-frame may be folded down, out of the way when not in use.

Accessory Shoes: The camera features three accessory shoes to permit simultaneous mounting of accessory finders, eye cup, exposure meter and/or flash unit.

FOCUSING KNOB

The focusing knob is extra large to permit convenient use even with gloved hand. The focusing movement is forward and backward in the same direction as the lens movement.

The distance scale for the normal lens is visible from the top. Telephoto and wide angle scales are on the side. The scales are again color coded to correspond to their respective lenses. The secondary dots near the respective infinity marks refer to infinity if infra-red film is used.

LENSES AND SHUTTERS

All three interchangeable lenses have identical shutters with these features:

- Shutter speeds are B, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500 Sec.
- Recessed MX synchronization lever cannot slip accidentally because it requires pencil tip to be moved.
- Reinforced flash post with outside thread accepts lock-on flash cord.
- All controls are visible from the top so that camera need not be turned during use.
- The shutter speed scale and aperture scale are engraved in contrasting colors.

Both scales are against a common index mark and have click stops. The scale rings are wide and knurled for easy setting. The fingers can bridge both scale rings simultaneously in order to change to another setting while maintaining same exposure value.

Cocking Lever: On the bottom of each shutter is the cocking lever, which, when lens is attached to the camera, is automatically engaged by film transport lever, so that the shutter gets cocked every time the film is transported. However, this cocking lever can also be actuated by hand, if necessary. (For instance, if lens is changed on loaded camera with film already transported or an intentional double exposure is desired).

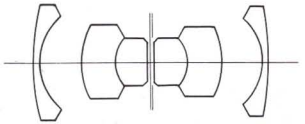
Camera Connections: Each lens-mounted shutter has two locating pins at 6 and 12 o'clock and one shutter release linkage at 3 o'clock. These engage corresponding cavities on the camera body. In addition there are the rangefinder coupling pins which automatically connect with the camera when the other three pins are properly in place. The normal lens has one rangefinder pin, the telephoto lens two, the wide angle lens none. (See also under "Changing Lenses")

Built-in Lens Shades - Standard Series Filters. All lens mounts also feature built-in retractable lens shades. Pull them out for use, push them in for storage. Use of lens shade increases lens performance considerably. Yet separate accessory lens shades are generally considered a nuisance by the busy professional. On the KONI-OMEGA® "Rapid" the lens shade is always in place and cannot get lost.

It was again with the professional in mind that all lens mounts were designed to accept standard "series type" filters, which are held in place by standard "Series type" retaining rings. Thus the photographer need not wastefully duplicate existing filter equipment.

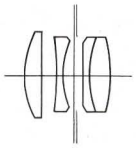
HEXANON LENSES

Konica is justly famous for its lens quality ("The lens alone is worth the price") and these three lenses were especially designed for the KONI-OMEGA®, and its critical professional use. All lenses are antireflection coated and utilize the latest rare earth glasses.



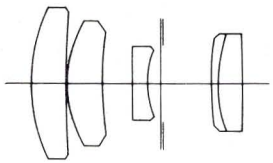
Hexanon 60MM f: 5.6

Normal Lens: Hexanon 90 mm f:3.5. Stops down to f:32. 4 elements in 3 groups. Accepts Series 6 filters and accessories. Angle of view 42° 20'.



Hexanon 90MM f: 3.5

Wide Angle Lens: Hexanon 60 mm f:5.6. Stops down to f:32, 6 elements in 4 groups. Accepts series 7 filters and accessories. Angle of view 60° 20'.



Hexanon 180MM f: 4.5

Telephoto Lens: Hexanon 180 mm f:4.5. Stops down to f:32. 5 elements in 4 groups. Accepts series 8 filters and accessories. (See lens diagrams with "depth of field" tables). Angle of view 21^{o} 50'.

About Protecting Lenses: The normal lens is mounted on the camera. The wide angle lens and telephoto lens come in protective, velvet-lined leather cases. When interchanging lenses, always protect the lens not in use by placing it in the empty case, even if the case is over-sized (normal lens into wide angle or telephoto case).

Each lens is also supplied with a front lens cap. There is no rear lens cap on 90 and 180 mm lenses because the case protects the rear.

When placing the telephoto lens into its case, be sure to watch the position of the rangefinder coupling pins and do not damage them.

Color Coding: • Normal - black • Wide angle - red • Telephoto - Blue.
This code is used on the rear of each built in lens hood, on the distance scales and on the auxiliary finders.

Interchanging Lenses: Place camera on its back and have focusing knob at infinity. Close the protective curtain with safety knob on the right side of camera by turning knob clockwise, so that "O" moves from 12 o'clock position to 2 o'clock. Slide nearby lever on side of lens, which is marked "lock ⟶," upwards. Now you can lift out lens. To attach lens proceed in reverse fashion, but

make sure that it is properly oriented over the camera mounting surface, so that all pins fit properly into their respective cavities. When the lens is properly seated, push down lock lever in the direction of the arrow as far as it will go and turn the safety shutter knob back to 12 o'clock position.

Safety Interlock Mechanism: In order to prevent the lens lock from being opened accidentally, the safety shutter knob must first be turned. This closes a light tight curtain which protects the film from exposure while changing lenses. If you should forget to return this control to normal, the shutter release is blocked automatically until the light tight curtain is again opened.

Caution - The shutter release block acts only on the plunger. If a cable release is used, its release pin will not be blocked. Therefore, when using a cable release, be sure to put safety shutter knob to O after lens has been locked on.

FLASH PHOTOGRAPHY

Flash equipment can be attached to the camera in two ways:

By means of an accessory flash bracket one of which accepts Heiland battery case clip only, or the Universal model which accepts Heiland or Graflex battery case clips. The flash bracket is first inserted by its notch under the focusing knob. Then it is screwed into the tripod socket. The bracket in turn has a tripod socket.

A flash head with the proper foot can also be slipped directly into one of the accessory shoes on top of the camera.

A special heavy duty 3 ft. coiled flash cable with Right angle locking PC tip is available as an accessory. This cable locks firmly to the flash post of all Koni Omega lenses, and prevents accidental disconnect. It has a standard two-prong polarized plug to fit professional battery cases.

NECK STRAP AND NECK STRAP EYELETS

The adjustable nylon neck strap is recommended to protect the camera from falling when photographing in exposed position or in crowds. To attach, push loop without clip through eyelet first and then pull clip through. To detach, proceed in reverse order.

MAINTENANCE AND CARE OF CAMERA AND LENSES

Treat your Koni-Omega "Rapid" like you would any fine camera. If exposed to moisture or dust, clean immediately after use. Lens surfaces and rangefinder windows must be kept clean at all times. Do not touch with fingers. If cleaning is necessary, use good quality lens cleaning fluid and lens tissue, camel's hair lens brush, or soft, well laundered handkerchief.

Words of Caution:

- Keep Viewfinder and Rangefinder windows clean.
- Aim your eye straight- all four frame lines must appear equally bright to keep rangefinder rectangle in sight.
- Press shutter release with single firm stroke to give maximum pressure on film just before shutter trips.
- Always pick up your Koni Omega on grip, never on advance lever.

KONI-OMEGA® DEPTH OF FIELD TABLES

KONI-OMEGA® DEPTH OF FIELD TABLE FOR 90MM f:3.5 HEXANON. CIRCLE OF CONFUSION 0.0583MM.

Distance in Feet

f:	3'	3.5'	4'	4.5'	5'	6'	7'	8'	10'	12'	15'	20'	30'	50'	100'	200'	∞
3.5	2'11" - 3'01"	3'05" - 3'07"	3'11" - 4'01"	4'05" - 4'07"	4'10" - 5'02"	5'09" - 6'03"	6'08" - 7'04"	7'07" - 8'05"	9'04" - 10'09"	11'01" - 13'01"	13'07" - 16'09"	17'06" - 23'05"	24'07" - 38'07"	36'05" - 80'02"	57'00" - 419'11"	79'65" - ∞	130'11" - ∞
4	2'11" - 3'01"	3'05" - 3'07"	3'11" - 4'01"	4'04" - 4'08"	4'10" - 5'02"	5'09" - 6'03"	6'08" - 7'05"	7'07" - 8'06"	9'03" - 10'10"	11'00" - 13'03"	13'05" - 17'01"	17'02" - 24'00"	24'00" - 40'03"	35'01" - 87'09"	53'08" - 776'11"	73'02" - ∞	114'07" - ∞
5.6	2'11" - 3'01"	3'05" - 3'07"	3'10" - 4'02"	4'04" - 4'08"	4'09" - 5'03"	5'08" - 6'05"	6'06" - 7'07"	7'05" - 8'09"	9'00" - 11'03"	10'07" - 13'10"	12'10" - 18'01"	16'03" - 26'01"	22'02" - 46'07"	31'04" - 126'03"	45'04" - ∞	58'05" - ∞	82'00" - ∞
8	2'11" - 3'01"	3'04" - 3'08"	3'10" - 4'03"	4'03" - 4'09"	4'08" - 5'04"	5'06" - 6'07"	6'04" - 7'10"	7'02" - 9'01"	8'08" - 11'10"	10'01" - 14'10"	12'01" - 19'10"	15'01" - 30'00"	20'00" - 61'04"	27'01" - 371'04"	36'40" - ∞	44'11" - ∞	57'07" - ∞
11	2'10" - 3'02"	3'04" - 3'09"	3'09" - 4'04"	4'02" - 4'11"	4'07" - 5'06"	5'05" - 6'10"	6'02" - 8'02"	6'11" - 9'07"	8'03" - 12'09"	9'07" - 16'04"	11'03" - 22'08"	13'10" - 37'01"	17'10" - 101'09"	23'02" - ∞	29'10" - ∞	34'11" - ∞	42'01" - ∞
16	2'10" - 3'03"	3'03" - 3'10"	3'08" - 4'05"	4'00" - 5'01"	4'05" - 5'10"	5'02" - 7'03"	5'10" - 8'10"	6'06" - 10'07"	7'08" - 14'07"	8'09" - 19'07"	10'02" - 29'08"	12'02" - 61'04"	15'01" - ∞	18'08" - ∞	22'09" - ∞	25'06" - ∞	29'01" - ∞
22	2'09" - 3'04"	3'02" - 4'00"	3'06" - 4'08"	3'11" - 5'05"	4'03" - 6'02"	4'11" - 7'11"	5'06" - 9'10"	6'01" - 12'01"	7'01" - 17'10"	7'11" - 25'11"	9'01" - 47'09"	10'07" - 303'10"	12'09" - ∞	15'02" - ∞	17'09" - ∞	19'04" - ∞	21'04" - ∞
32	2'08" - 3'06"	3'00" - 4'03"	3'04" - 5'01"	3'08" - 5'11"	4'00" - 6'11"	4'06" - 9'03"	5'00" - 12'02"	5'06" - 16'00"	6'03" - 28'02"	6'11" - 57'07"	7'09" - ∞	8'10" - ∞	10'02" - ∞	11'08" - ∞	13'01" - ∞	13'11" - ∞	14'10" - ∞

KONI-OMEGA DEPTH OF FIELD TABLE FOR 60MM f:5.6 HEXANON. CIRCLE OF CONFUSION 0.0583MM.

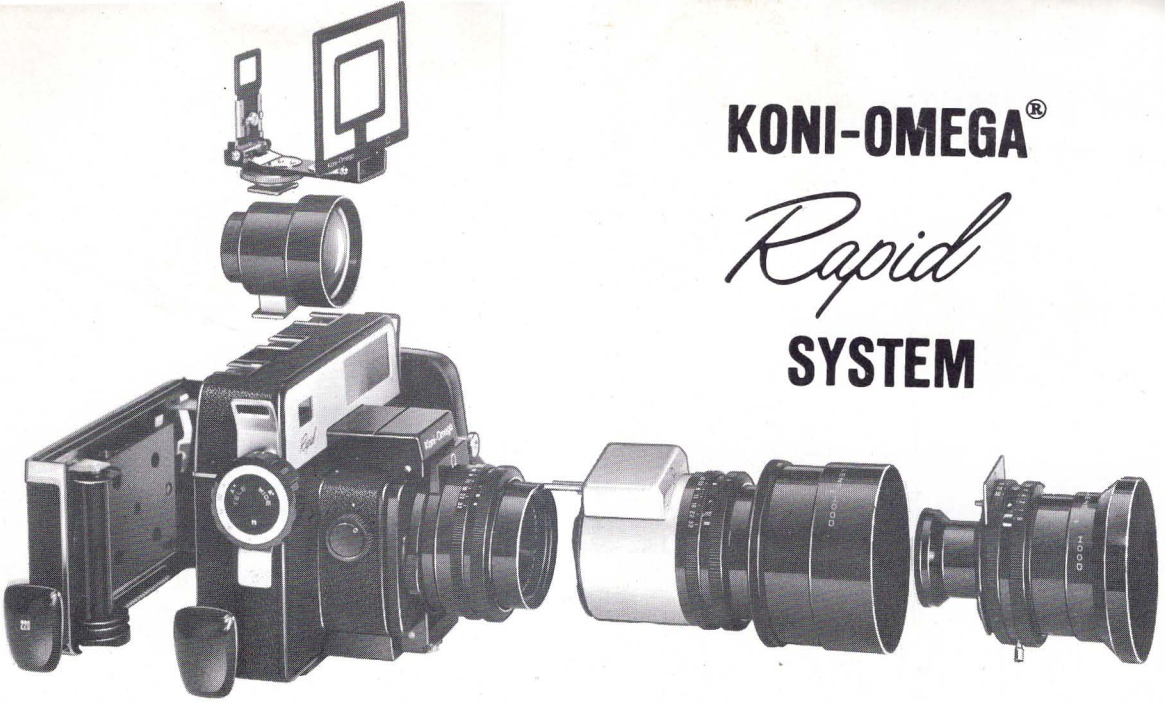
Distance in Feet

f: ↓	3'	3.5'	4'	4.5'	5'	6'	7'	8'	10'	12'	15'	20'	30'	50'	100'	200'	∞
5.6	2'10" - 3'02"	3'03" - 3'09"	3'08" - 4'04"	4'01" - 5'00"	4'06" - 5'08"	5'03" - 7'00"	6'00" - 8'05"	6'09" - 9'11"	8'00" - 13'05"	9'03' - 17'04"	10'10" - 24'08"	13'02" - 42'09"	16'09" - 160'04"	21'05" - ∞	27'00" - ∞	31'01" - ∞	36'08" - ∞
8	2'09" - 3'03"	3'02" - 3'11"	3'07" - 4'07"	3'11" - 5'03"	4'04" - 6'00"	5'00" - 7'06"	5'08" - 9'03"	6'03" - 11'02"	7'05" - 15'08"	8'05" - 21'07"	9'09" - 34'05"	11'06" - 85'03"	14'02" - ∞	17'03" - ∞	20'08" - ∞	23'00" - ∞	25'10" - ∞
11	2'08" - 3'05"	3'01" - 4'01"	3'05" - 4'10"	3'09" - 5'07"	4'01" - 6'05"	4'09" - 8'04"	5'04" - 10'06"	5'10" - 13'02"	6'09" - 20'01"	7'07" - 31'01"	8'07" - 68'07"	10'00" - ∞	11'10" - ∞	13'11" - ∞	16'01" - ∞	17'04" - ∞	18'11" - ∞
16	2'07" - 3'07"	2'11" - 4'05"	3'03" - 5'04"	3'07" - 6'04"	3'10" - 7'06"	4'04" - 10'02"	4'10" - 13'10"	5'03" - 18'10"	5'11" - 38'05"	6'06" - 125'03"	7'03" - ∞	8'02" - ∞	9'04" - ∞	10'07" - ∞	11'09" - ∞	12'05" - ∞	13'02" - ∞
22	2'06" - 3'11"	2'09" - 4'11"	3'01" - 6'01"	3'04" - 7'07"	3'06" - 9'03"	3'11" - 14'01"	4'04" - 22'06"	4'08" - 40'08"	5'02" - ∞	5'07" - ∞	6'02" - ∞	6'09" - ∞	7'06" - ∞	8'03" - ∞	8'11" - ∞	9'04" - ∞	9'09" - ∞
32	2'04" - 4'07"	2'07" - 6'02"	2'09" - 8'03"	3'00" - 11'03"	3'02" - 15'11"	3'05" - 41'10"	3'09" - ∞	3'11" - ∞	4'04" - ∞	4'07" - ∞	4'11" - ∞	5'03" - ∞	5'09" - ∞	6'01" - ∞	6'05" - ∞	6'08" - ∞	6'10" - ∞

KONI-OMEGA DEPTH OF FIELD TABLE FOR 180MM f:4.5 HEXANON. CIRCLE OF CONFUSION 0.0583MM.

Distance in Feet

f: ↓	10'	12'	15'	20'	30'	50'	100'	200'	∞
4.5	9'10" – 10'02"	11'09" – 12'03"	14'07" – 15'06"	19'02" – 20'11"	28'01" – 32'02"	44'09" – 56'08"	80'08" – 131'10"	134'07" – 391'05"	406'05" – ∞
5.6	9'09" – 10'03"	11'08" – 12'04"	14'05" – 15'07"	19'00" – 21'02"	27'08" – 32'09"	43'08" – 58'07"	77'00" – 143'00"	124'08" – 511'07"	326'10" – ∞
8	9'08" – 10'04"	11'06" – 12'06"	14'03" – 15'11"	18'07" – 21'08"	26'09" – 34'02"	41'05" – 63'03"	70'02" – 175'07"	107'05" – 1556'01"	229'02" – ∞
11	9'07" – 10'06"	11'04" – 12'09"	13'11" – 16'03"	18'01" – 22'05"	25'09" – 36'00"	38'11" – 70'04"	63'01" – 245'08"	91'07" – ∞	167'00" – ∞
16	9'05" – 10'09"	11'01" – 13'01"	13'06" – 16'11"	17'04" – 23'08"	24'02" – 39'09"	35'05" – 86'06"	54'02" – 742'08"	73'08" – ∞	115'02" – ∞
22	9'02" – 11'00"	10'09" – 13'07"	13'01" – 17'09"	16'06" – 25'06"	22'07" – 45'04"	31'11" – 119'09"	46'03" – ∞	59'09" – ∞	84'01" – ∞
32	8'10" – 11'07"	10'04" – 14'06"	12'04" – 19'05"	15'04" – 29'02"	20'04" – 59'04"	27'06" – 339'10"	37'04" – ∞	45'06" – ∞	58'02" – ∞



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