

KODAK PORTRAIT LENS

305mm (12-in.) f/4.8

in Ilex No. 5 Universal Synchro Shutter
with Blade Control



The Kodak Portrait Lens $f/4.8$ has been designed to produce soft-focus images for portraiture and some types of commercial and illustrative photography where softness or "pearly" highlights are often desirable. It is free from distortion and therefore can be used when the subject matter includes rectilinear objects. Many commercial subjects are lighted principally with spots instead of flood lights. This can result in very dense highlights in the negative, which may be difficult to print. Less contrasty highlights and a pleasing softness will result if such lightings are photographed with this Kodak Portrait Lens. Unlike many soft-focus lenses, it is color-corrected, and can be used for color photography. In color photography, exposures made at moderate apertures, such as $f/8$, will soften harsh lines in a pleasing manner without color fringing.

The Kodak Portrait Lens differs from many soft-focus lenses in the way in which the soft-focus effect is secured. With some lenses, this effect is obtained by means of chromatic aberration. With lenses of this type, the image may be visually sharp on the ground glass of the camera but the effect will be different in the negative. The soft-focus effect obtained with such lenses also varies with the film being used; that is, panchromatic, orthochromatic, or ordinary blue-sensitive film all produce different degrees of diffusion in the negative. Lenses which depend on chromatic aberration for their soft-focus qualities are not, of course, suitable for color work.

With the Kodak Portrait Lens, the soft-focus effects are obtained by means of CONTROLLED spherical aberration. Images formed by lenses having spherical aberration have been described as being "soft-sharp." For example, each point in the image will be surrounded by a soft halo of light much like the highlight on a pearl bead; hence, the term most often used to describe the effect, "pearly highlight." This image quality gives results that are soft enough to eliminate harsh lines and yet the image is sharp and not "mushy." In the Kodak Portrait Lens, the amount of softness in the image is controllable by means of the diaphragm. When the lens is used wide open ($f/4.8$), the soft-focus effect is most pronounced; while at the smallest lens opening ($f/22$), diffusion almost disappears. For special effects, such as in high-key pictures, the photographer can obtain extreme diffusion by focusing on a point ahead of the subject. Regardless of the degree of diffusion, the effect can be observed directly on the ground glass; this eliminates the uncertainty that is always present when certain other types of soft-focus lenses are used.

OPERATION

With conventional sharp-focus lenses, it is usual practice to focus on the catchlights in the eyes. The catchlights are usually at a good compromise distance between the tip of the nose and the ear. They provide a very satisfactory point of focus, for, with sharp-focus lenses, there is a range of acceptable sharpness both in front of and behind the plane of best focus. The extent of this range of sharpness, or depth of field, decreases as the aperture is opened.

In the case of the Kodak Portrait Lens, however, there is no usable depth of field in front of the point focused on. There is considerable depth behind this point, however, in which there is a wealth of recognizable detail. This means that if the eyes are used as a point of focus, the nose is then outside the depth of field. Therefore, in order to obtain the striking results of which the lens is capable, *a new focusing technique must be used.*

The following procedures are offered as a guide. Both methods outlined have proved reliable, and in both it should be remembered that exactly what appears on the ground glass will be recorded on the negative. The choice of one method or the other will be a matter of individual preference.

Catchlight Focusing

One focusing technique which has proved very successful is to use the normal focusing point and then apply a correction for the lack of depth of field in front of the focused plane. This correction moves the focused point forward toward the lens, thus insuring that the entire subject will fall within the depth of field. The following steps outline this method.

1. Set the diaphragm at the regular working aperture.
2. Focus on the catchlights in the eyes or if this is not practical, perhaps because of head position, choose some convenient intermediate point as would usually be done when working with a conventional sharp-focus lens. In focusing, however, remember that since all depth of field is behind the focused point, the greatest bellows extension which gives a sharp image is the setting at which the subject is in critical focus. If the subject is thrown out of focus by extending the bellows and then the bellows are racked in until the image of the catchlights *first* becomes sharp, the catchlights will be in critical focus.
3. It is now necessary to move the point of focus forward from

the catchlights to about the tip of the nose in order to include the whole face within the depth of field. This is done by racking the bellows out by an amount which varies with the image size of the head as follows:

- rack out about 1/8-in. for a 2-in. head;
- rack out about 3/8-in. for a 3-in. head;
- rack out about 1/2-in. for a 5-in. head.

These are approximate figures which give pleasing results when this lens is used for an average face. These distances must, therefore, be modified slightly for a face with a rather long nose or deep-set eyes, or for one which departs noticeably from the average in other ways. It should be kept in mind in making all adjustments that the negative will record just what appears on the groundglass.

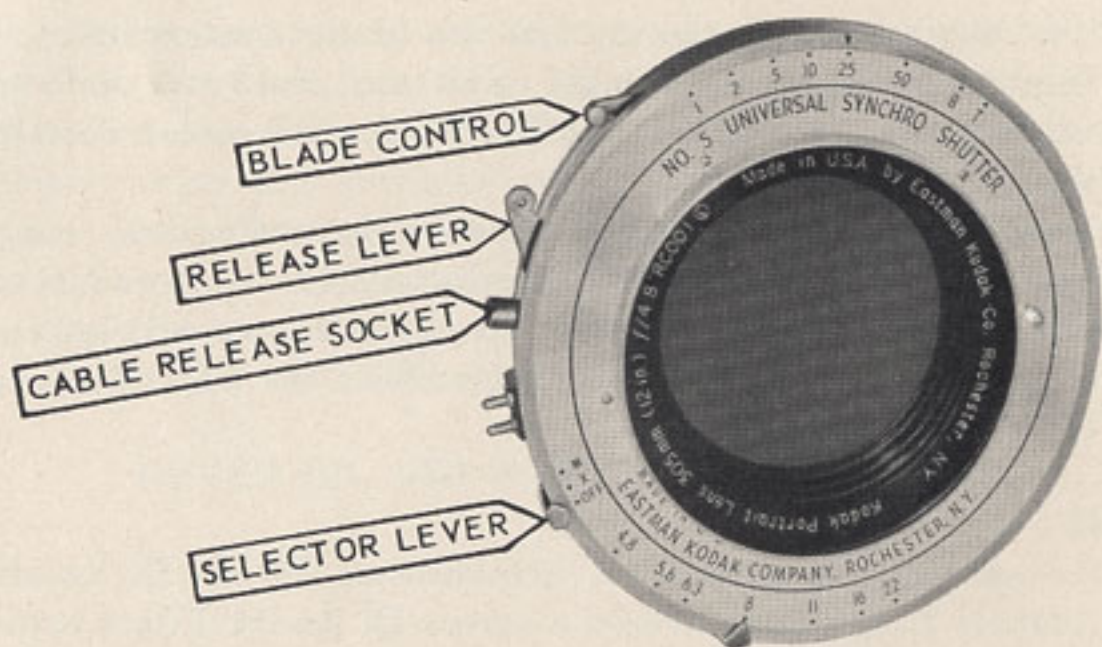
If the bellows are racked out a little farther than the distances listed, thus moving the point of focus farther forward, the resulting picture will have still more of the diffuse, soft-focus effect, and, in fact, many photographers prefer such pictures. A small ruler taped along the camera bed will be an aid in making the measurements quickly and easily.

Front Focusing

Here is another technique which has been found quite satisfactory. This method calls for focusing on the point of the subject nearest the camera rather than on a mid-point (such as the catchlights in the eyes). Thus, in photographing a head in full or three-quarter view, the focusing point is the tip of the nose, and the rest of the face automatically falls inside the depth of field.

1. Set the lens opening at $f/8$.
2. Rack the bellows out until the whole subject is out of focus. Then rack in until the nearest point on the subject just comes into sharp focus. The entire subject should now be acceptably sharp.
3. Open the diaphragm one stop and note the softness in the image. If more softness is desired, open still further and observe the image.
4. Make the exposure at the stop that gives the right amount of softness to the image as seen on the ground glass.

Maximum diffusion will be obtained at $f/4.8$. If even more diffusion is desired, focus on a point somewhat closer to the camera by racking the bellows out after focusing on the nose. The important fact to remember is that the image on the ground glass is exactly what will be registered on the negative.



LENS BOARD MOUNTING

The lens is supplied complete with a lens board mounting flange. To mount the lens, cut a hole in the center of the lens board 3-3/8 inches (86mm) in diameter. If a recessed lens board is to be used, the over-all diameter of the shutter case and clearance for a cable release and synchronizer connector cord should be considered.

Screw the mounting flange to the lens board so that the operating controls of the lens and shutter are in the proper relative positions for convenient manipulation.

ILEX NO. 5 UNIVERSAL SYNCHRO SHUTTER

The Kodak Portrait Lens f/4.8 is supplied in an Ilex No. 5 Universal Synchro Shutter. This is a self-setting shutter (which does not require cocking) with built-in synchronizing mechanism and a blade control. Shutter speeds are selected by rotating the knurled rim until the V index is at the desired speed. The shutter can be released either with the release lever or with a cable release.

The Synchronizing Interval is selected by setting the selector lever as follows:

For Class M Lamps, such as No. 50 or No. 3 flash lamps, set the selector lever at "M" and use a shutter speed of 1/25 second or longer.

For the Kodatron Speedlamp set the selector lever at "X." (Other instantaneous flash equipment may require a different setting.)

The Blade Control permits focusing, posing, or positioning the image on the ground glass after the shutter speed has been selected.

To use the blade control, merely lift the blade control lever. The shutter blades will open and remain open until the lever is lowered. Be sure the selector lever is at the "OFF" position; otherwise lamps will flash.

For focusing, inserting flash lamps in the reflectors, etc., set the selector lever at the "OFF" position. In the Ilex Universal Synchro Shutter the flash circuit is closed and lamps will be flashed whenever the shutter blades are open, unless the selector lever is at the "OFF" position.

FILTERS

Use a Kodak Combination Lens Attachment, Series IX Retaining Ring or Adapter Ring Insert to hold a Series IX Kodak Filter in place. The ring or insert screws directly into the front of the lens mount.

CAUTIONS

Flashing Voltages. Ilex No. 5 Universal Synchro Shutters are designed for battery flashing. The maximum voltage that can be used without the possibility of damaging the shutter is 45 volts. Over-volting may fuse the contacts and the shutter will have to be returned for repairs.

In multiple flash work, it should be remembered that at the moment the lamps are flashed, there is a tremendous surge of current through the circuit and that in a parallel circuit the effect is multiplied. Therefore, for multiple flash, use a series or series-parallel circuit.

Since lamps may shatter when flashed, the use of transparent protective screens over the reflectors is recommended.

Do not flash lamps in an explosive atmosphere.

Always disconnect the connector cord before inserting lamps in the reflectors.

Flash lamps remain too hot to handle for several seconds after they have been flashed. Do not try to remove them with bare hands until after they have cooled.

LENS CARE AND CLEANING

The lens and shutter are a precision optical unit and should be afforded the same careful treatment that is given to any fine instrument. In particular, do not subject it to extremes of temperature or humidity. Do not drop it, bump it, or otherwise subject it to undue

shock. When the lens is not in use, always cover it with the cap.

To clean the lens, carefully brush off any dust or grit with wadded Kodak Lens Cleaning Paper or a fine camel's-hair brush. If necessary, wipe the surfaces gently with a wad of one or several sheets of lens cleaning paper or a clean, soft, lint-free cloth. Always wipe with a circular motion. Fingerprints, oil spots, or other scum deposits can be removed with a drop of Kodak Lens Cleaner on the cloth. DO NOT USE ALCOHOL.

NEVER OIL ANY PART OF THE SHUTTER

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