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# PENTAX

## 645

Multi-Mode Medium-Format SLR Camera with Built-In Motor Drive

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## **THE PENTAX 645:**

### **The first multi-mode medium-format camera for professional photography in the field**

The serious field photographer demands two things from a camera: flawless, professional picture quality and total responsiveness to the fleeting photographic moment. The Pentax 645 satisfies these demands like no other camera.

The Pentax 645 puts the very latest SLR technology at the photographer's command — for the first time in a medium format camera. Seven electronic exposure modes, built-in motor drive, fast-access electronic controls, and TTL auto flash capability allow the photographer to react swiftly and surely to an incredible variety of photographic situations.

And to make the Pentax 645 even more competent and versatile in the field, it has been designed specifically for hand-held eye-level photography — another first for the 6×4.5 format. Any photographer familiar with the outstanding handling of the popular 35mm format will appreciate the performance of this lightweight, compact camera.

But though the Pentax 645 handles like a 35mm camera, it produces a dimension of photographic excellence known only to the medium- and large-format user. The 6×4.5 format provides over two and a half times the negative area of 35mm film, for accurate, high-resolution enlargements that would be impossible with a 35mm negative. And the 6×4.5 format also gives the photographer access to professional standards of quality in lenses and all accessories.

For the experienced photographer who demands in a single camera the versatility made possible by up-to-date technology *and* the quality of medium format, there's an answer at last: The Pentax 645.

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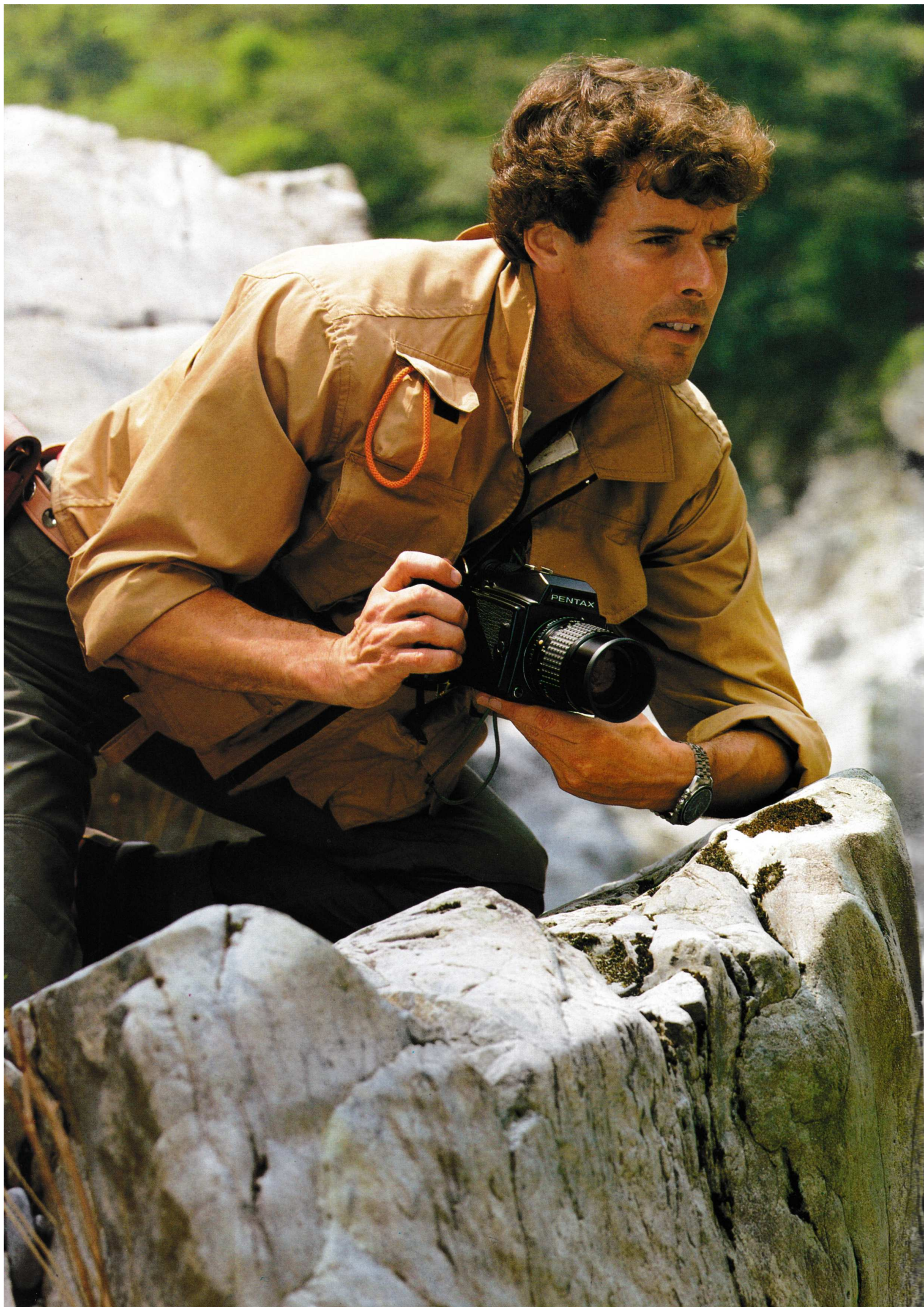
## Beyond 35mm: Professional Quality and Handling Ease in the 645 Format

As versatile as the popular 35mm format is, the serious photographer often needs more. Only a larger format can produce professional-quality enlargements for display or transparencies for reproduction.

The Pentax 645 offers the superior photographic quality of the  $6 \times 4.5$  format without sacrificing versatility and handling ease. The  $6 \times 4.5$  negative provides 2,324 sq. mm of usable area — over two and a half times the area of a 35mm negative. That means finer resolution and better color fidelity in enlargements and easier viewing of stock photos. Using 120, 220, or 70mm film, the  $6 \times 4.5$  rectangular negative format is also highly efficient, with none of the wasted space of  $6 \times 6$  square negatives, which must usually be cropped into rectangular shape. And there's one more advantage to the  $6 \times 4.5$  medium format: it gives the photographer access to a full range of professional quality medium-format lenses — not only our new 645 lenses, but also, with an adapter, most of the acclaimed Pentax 67-system lenses.



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## The Pentax 645 brings medium format out of the studio

Most medium-format cameras are designed to handle like a studio camera, and that's fine if you have a tripod and plenty of time and a static subject. But for field work, where lightning-fast reactions are essential, these cameras are usually far too clumsy and slow.

Now, for the first time, there's a medium-format camera that is as competent and responsive in the field as a 35mm SLR. The Pentax 645 is tough, lightweight, easy-to-handle and designed especially for eye-level shooting. And it has an impressive range of electronic features, including built-in motor drive and seven exposure control modes, to respond instantly when any photographic opportunity arises. New designs, like the low-profile fixed pentaprism, extra-smooth mirror and auto-wind mechanisms, and accessible light-touch controls have replaced the cumbersome cranks and dials and oversized viewfinders that make other medium-format cameras so difficult to use. With the handgrip strategically placed flush with the rear of the body, the camera can be held steady, for excellent results even at slow shutter speeds. Only the Pentax 645 combines this high degree of handling and operating ease with the superior photographic quality of the 6 × 4.5 format.

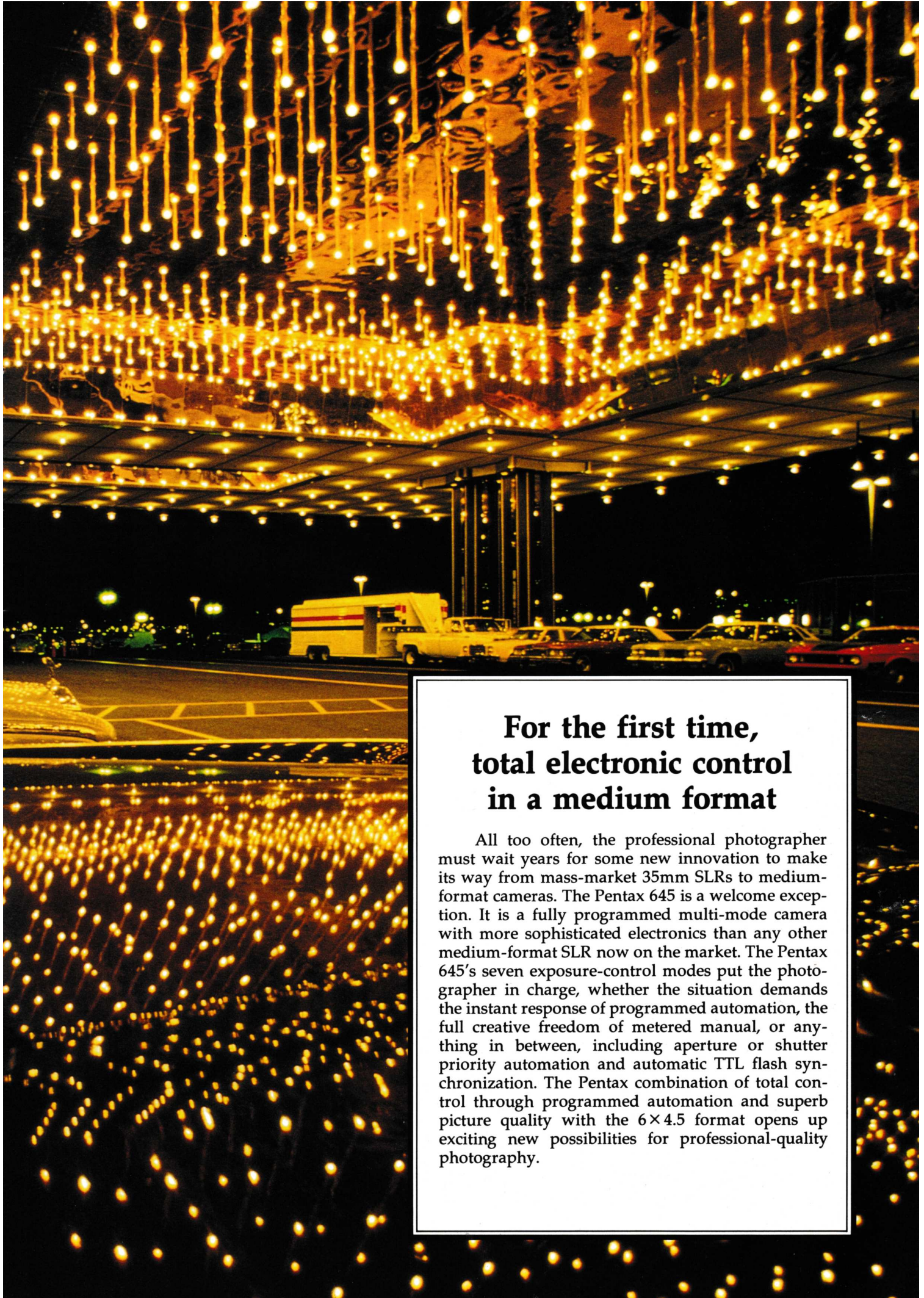




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## **For the first time, total electronic control in a medium format**

All too often, the professional photographer must wait years for some new innovation to make its way from mass-market 35mm SLRs to medium-format cameras. The Pentax 645 is a welcome exception. It is a fully programmed multi-mode camera with more sophisticated electronics than any other medium-format SLR now on the market. The Pentax 645's seven exposure-control modes put the photographer in charge, whether the situation demands the instant response of programmed automation, the full creative freedom of metered manual, or anything in between, including aperture or shutter priority automation and automatic TTL flash synchronization. The Pentax combination of total control through programmed automation and superb picture quality with the 6×4.5 format opens up exciting new possibilities for professional-quality photography.



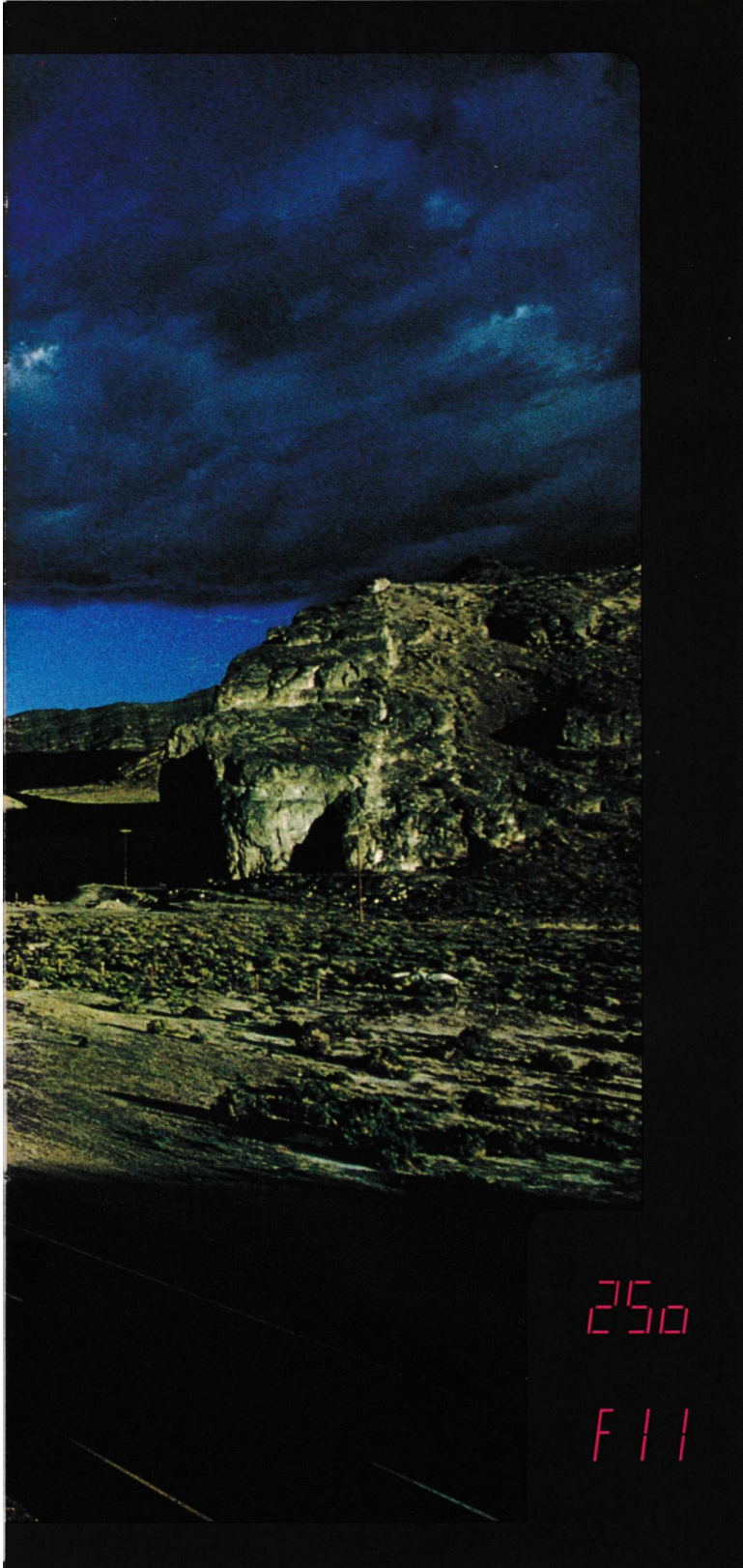
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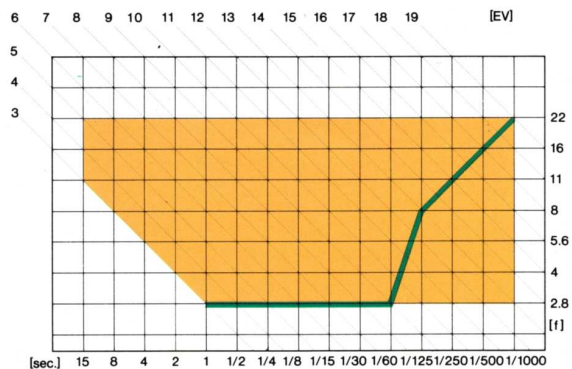


## Preserve the Spontaneity of the Moment



### Programmed AE Mode

The 645's program mode is a critically important feature in the field, where moving subjects and constantly changing light conditions can frustrate even the most experienced professional. With a sophisticated exposure program controlling both aperture and shutter speed settings, you are free to react instantly and spontaneously to any photographic situation. And for best results in hand-held or available-light photography, the 645 is programmed for high shutter speed bias. Just frame, focus and shoot to capture even the most rare and fleeting images.

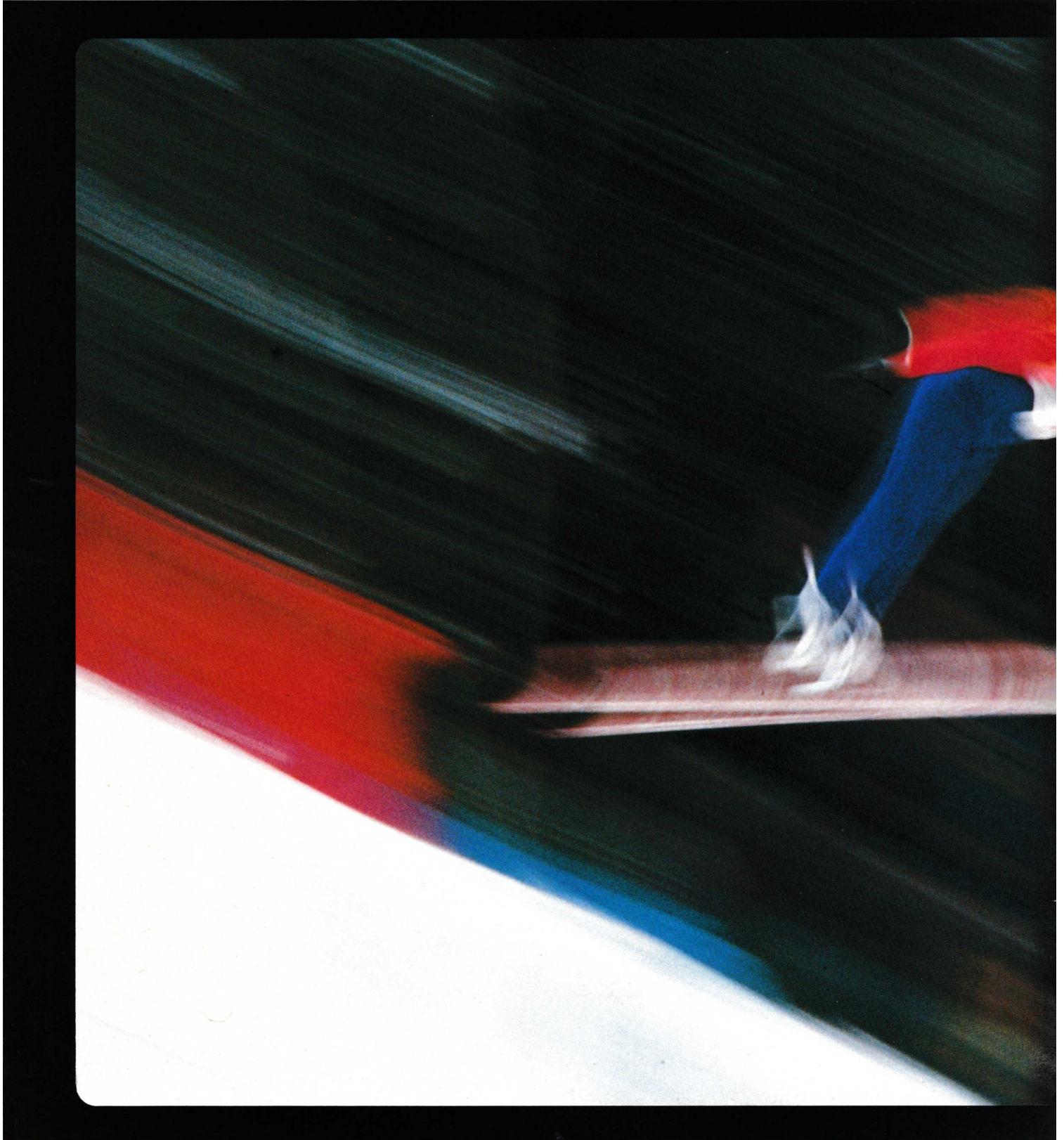


Shutter/Aperture Coupling Range  
(At ISO 100 with 75mm f/2.8 lens)



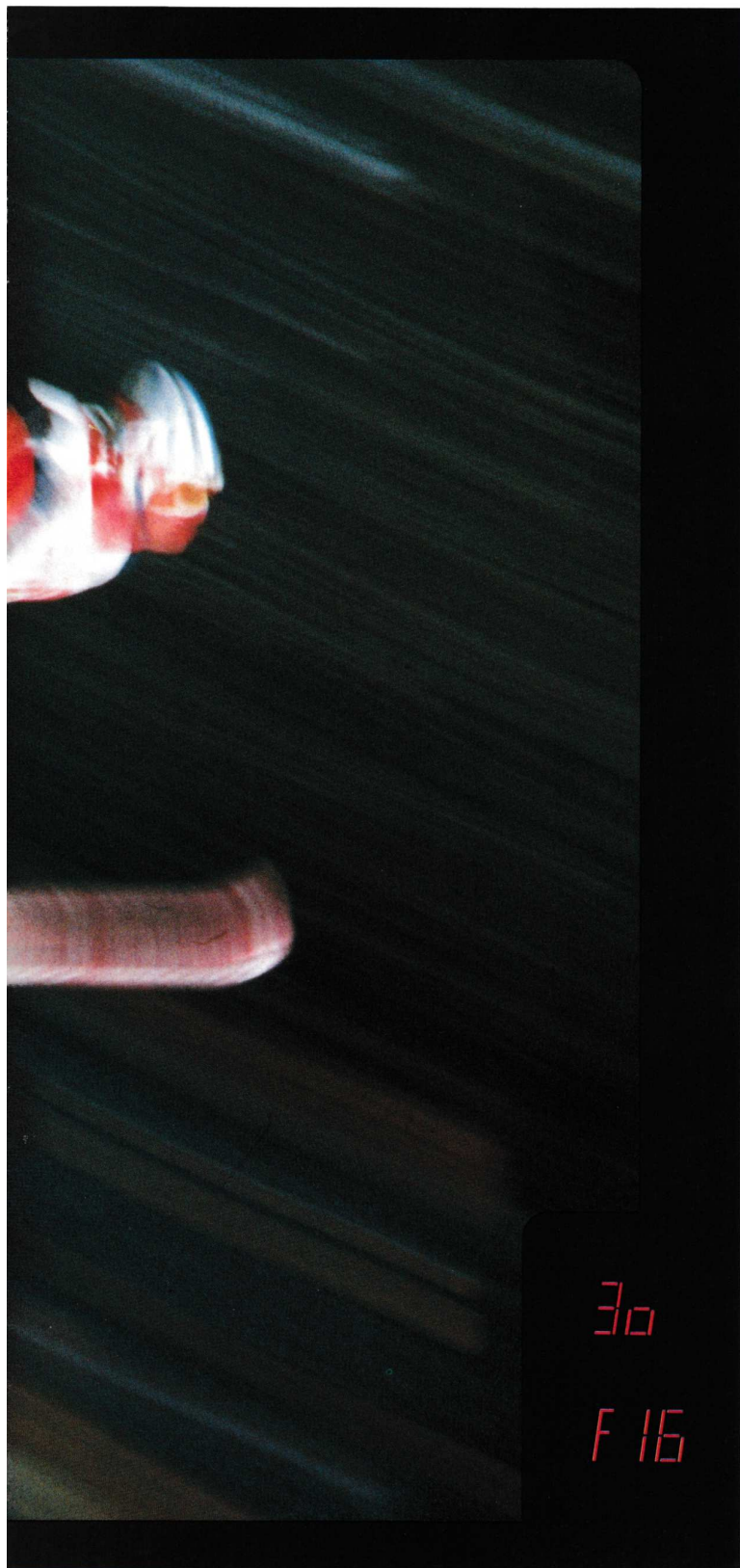
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## Creative Freedom Through Electronics



### Aperture-Priority AE Mode

For special situations where you need full control over depth of field, the Pentax 645 has two aperture priority modes. In Aperture-Priority AE 1, set the lens on "A" (automatic) and choose the desired aperture with the selecting buttons. In Aperture-Priority AE 2, set the aperture manually by turning the aperture ring on the lens. In either case, the correct shutter speed is set automatically. When using Aperture-Priority AE 1, available with 645 lenses, both aperture and shutter speed information appear in the viewfinder and LCD window. Aperture-Priority AE 2 can be used with Pentax 67-system lenses, with shutter speed information appearing in the viewfinder. A preview lever allows the photographer to predetermine depth of field when using Aperture-Priority AE 2.

### Shutter-Priority AE Mode

The Shutter-Priority AE Mode is perfect for when you wish to create special effects with motion, either freezing an instant in time or stretching the movement out across the picture. Set the lens on the "A" position and select the desired shutter speed, from 1/1000th second to 15 seconds, with the selecting buttons. The camera automatically selects the proper aperture for the precise moment the shutter is activated.

### Metered Manual Mode

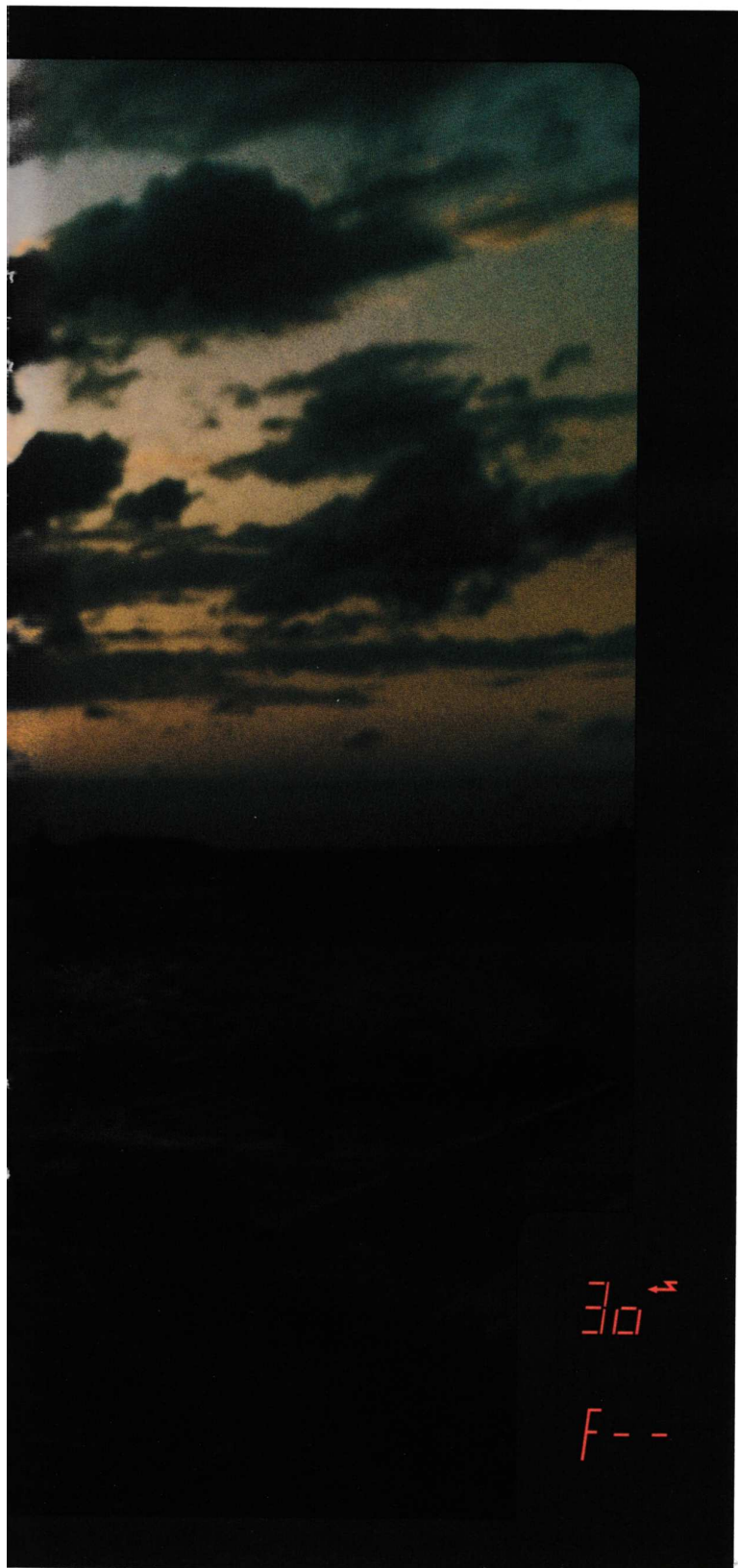
For total creative control over all exposure factors, use the Metered Manual Mode. Select f-stop with the aperture ring on the lens, and shutter speed with the selecting buttons. The shutter speed will appear in the viewfinder along with "OK" for a correct exposure or numbers showing how many stops over- or under-exposed your aperture setting is. Metered Manual is available with Pentax 67-system lenses as well as 645 lenses.





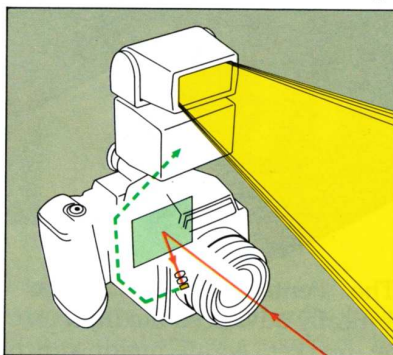


## Sophisticated Flash Photography



### TTL Auto Flash Mode

In the TTL Auto Flash Mode, a sensor in the camera body measures flash output and ambient light as it travels through the lens to the film plane. The flash is automatically terminated when the proper amount of light has reached the film. Since the measuring is done off the film plane as the exposure is actually taking place, TTL flash exposure is virtually error-free. When you use TTL Auto Flash in the Aperture-Priority AE 2 or Metered Manual modes, you can shoot flash photos at any f-stop, for precise control over depth of field. Shutter sync speed is automatically fixed at 1/60 second. When the lens is set at the "A" position (Programmed AE or Aperture-Priority AE 1 modes), the aperture is automatically set according to the automatic exposure program.



### Programmed Auto Flash Mode

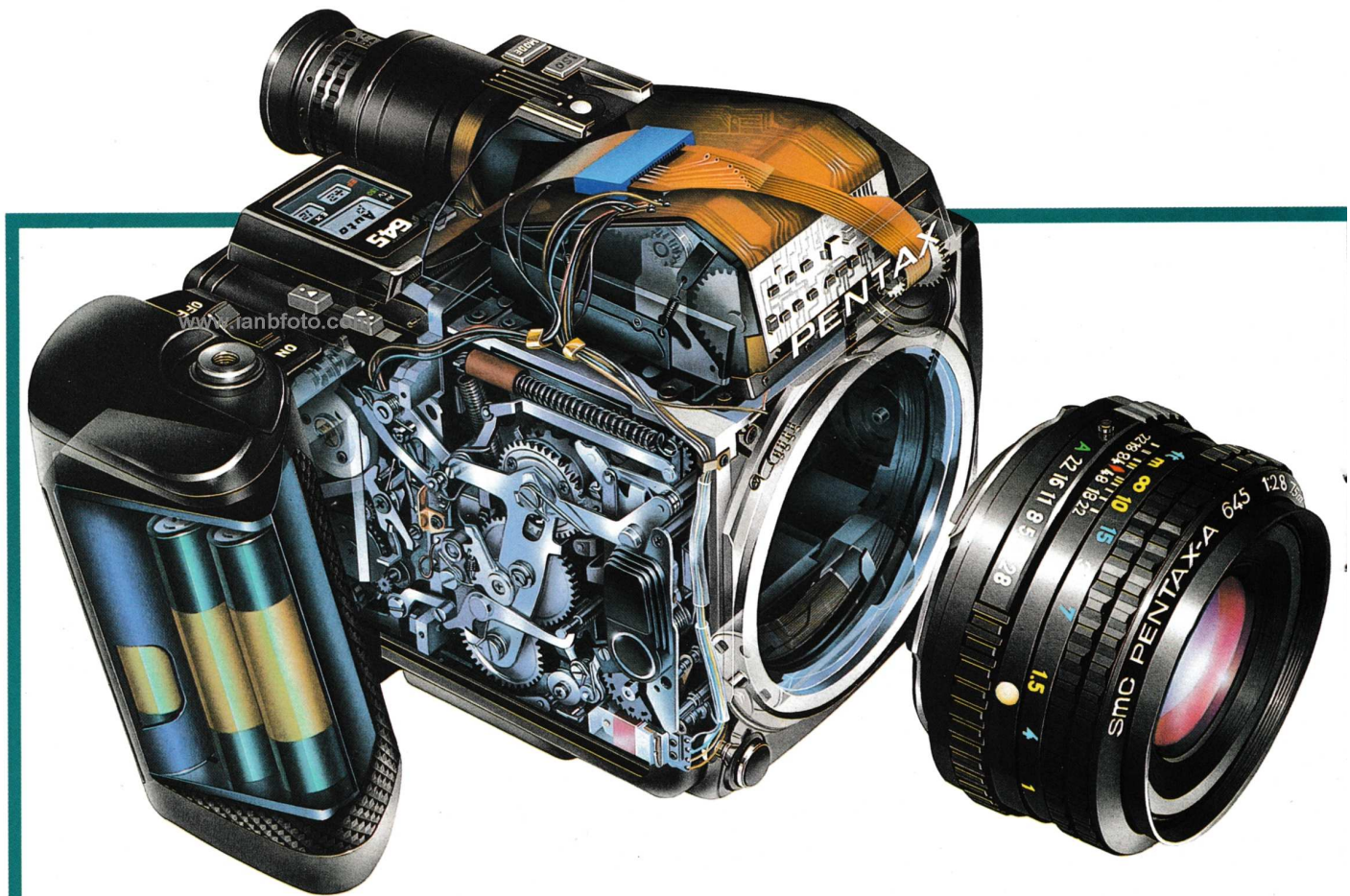
Programmed Auto Flash lets you do with flash what the Programmed AE Mode does with available light: shoot on the spur of the moment with accuracy, speed and confidence. Set the lens aperture on "A" and the flash unit on Automatic. There's no need to set either shutter speed or lens aperture. When the flash is fully charged, the shutter speed will automatically be set at 1/60 second and the aperture will be adjusted to the automatically-selected f-stop. If special flash effects are needed, the flash and lens can be used in the Manual Mode.

### Leaf-Shutter Lens (LS) Mode

When the camera is used with the SMC Pentax 645 75mm leaf-shutter lens, flash synchronizations up to 1/500 second are possible. This feature is particularly useful for studio work and daylight flash synchronization. When the leaf-shutter lens is attached to the camera, the viewfinder and LCD window show "LS" and the focal-plane shutter is set automatically at 1/8 second. Exposure control and metering are both manual.



## Superior Electronic and Mechanical Engineering



The Pentax 645 is by far the most electronically advanced medium format camera on the market — all major functions, from exposure control to display panels, are microprocessor controlled. These sophisticated LSIs are designed by Pentax engineers exclusively for this camera. That means circuit patterns are efficient, extremely reliable and perfectly suited to the task they are designed to perform.

This camera's technological superiority does not stop with electronics. We've made sure every mechanical function of the 645 incorporates the newest technologies and materials engineered to the most exacting tolerances. To meet the demands of constant daily use, the 645 is subjected to far more stringent testing and inspection than standard 35mm cameras.

### **Smooth, quiet film winder**

Most auto-wind cameras use a system of noisy speed-reduction gears to transmit motion from the motor to the film spools. For the Pentax 645, we've created a quiet belt-drive system that is both reliable and durable. "Teeth" on the belt help prevent slippage during high-speed winding.

### **Compact, high-performance motor**

A major reason why the Pentax 645 is more compact than other medium-format cameras is the compact, custom-made motor it uses to advance the film, cock the shutter and load the mirror mechanism. Though only 18mm in diameter, this advanced 7-pole coreless motor uses expensive samarium-cobalt magnets for excellent start-up torque.

### **Highly accurate film advance**

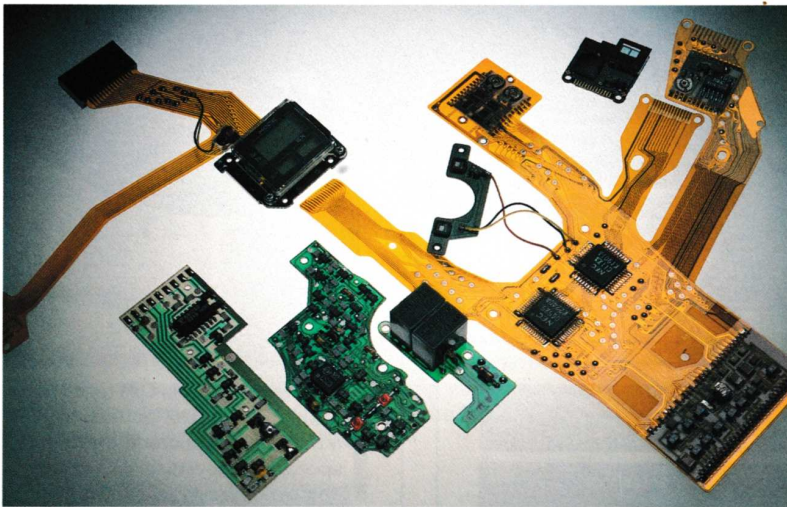
The cam that regulates film advance turns a full 120° per frame (versus about 18° for most medium format cameras). Thus, spacing between frames is more accurate than any other medium-format camera. A special mechanism adjusts spacing according to the film holder in use.

### **Durable ball bearing action**

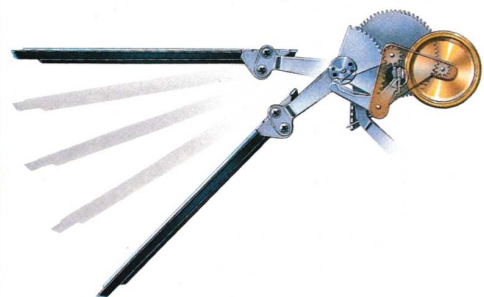
Ball bearings are used at 10 different points in the Pentax 645, including mirror up/down, aperture setting and operation, and shutter movement and control. Besides providing smoother operation and outstanding durability (especially important in a rugged field camera like the 645), ball bearings reduce friction so that battery life is extended. A special surface treatment for all gears also ensures smoother operation and longer life.



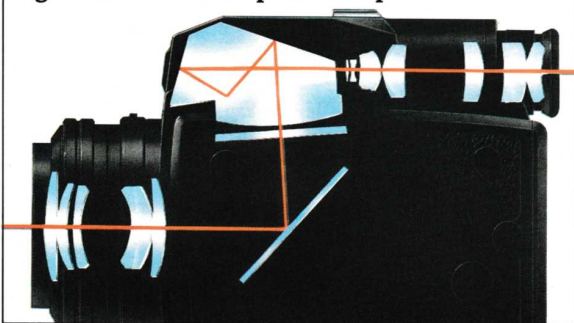
### Circuit Board Configuration



### Pentax Mirror Brake System



### Light Path with Compact Pentaprism



### Compact prism

A highly compact pentaprism of a type never before used in a medium-format camera contributes significantly to the light weight and low-profile design of the camera. Thanks to this new prism, the 645 stands just a little taller than popular 35mm SLRs.

### Bright viewfinder with 9 lens elements

The viewfinder eyepiece of the 645 is made up of a total of 9 lens elements — five relay elements and four eyepiece (diopter) lenses. Like the newly-designed prism, the compactness of this eyepiece helps keep the weight and dimensions of the 645 low. The 645 finder is less likely than other finders to cause image disappearance when the eye moves away from the optical axis. All lenses are coated to ensure bright images and true-to-life colors.

### Shock-reducing mirror brake

Regulating the motion of the mirror as it tilts is a motorized flywheel that acts as a governor, braking the mirror as it approaches its full-up position. Mirror shock is thus minimal, an important consideration at slow shutter speeds. Most other cameras use a jerky spring-action mirror mechanism.

### Polyester film shutter

Consisting of a total of six shafts and independently controlled first and second shutter curtains, the focal-plane shutter mechanism uses the same polyester film ribbon design proven in the Pentax 6×7. This material does not stretch, so shutter edges maintain proper alignment and shutter speeds remain accurate. The long running distance of the shutter, extending beyond the film aperture, provides more room for braking, thus reducing shock.

### Newly-designed pressure plate

To keep the film ideally flat in the focal plane, the 645 makes use of newly designed pressure plate and rollers, a more sophisticated system than that used in any other medium-format single-lens reflex camera. The result is sharper focus over the entire film plane.

### Rugged lens mount

The lightweight Pentax 645 bayonet lens mount is extra thick for added durability and more precise lens positioning.



# The Pentax 645 Control Panel: A Concept That's Years.



**ISO setting.** Depress ISO button and move to desired ISO film speed setting using selecting buttons.

**Exposure compensation.** Adjusts for intentional over- or under-exposure from -3 to +3 stops. While depressing the EF button, use selecting buttons to move to the desired setting.



**Mode setting.** Depress MODE button and move to desired mode setting using selecting buttons. Programmed AE, Aperture-Priority AE 1 and Shutter-Priority AE available with lens set on "A". Aperture-Priority AE 2, Metered Manual, Flash Sync and Bulb available with lens aperture on manual settings.

**Selecting buttons.** Use together with other control buttons to adjust exposure mode, shutter speed, lens aperture, ISO setting and exposure compensation.

**LED on/off switch.** Press LED button to switch LED viewfinder display on or off. A timer automatically switches display off after 30 seconds.

**Display Light.** Press "O" button and LCD window illuminates for 10 seconds.

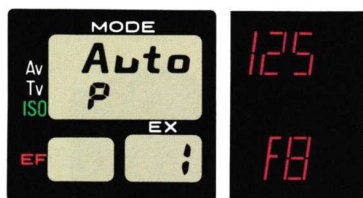
Pentax has created a totally new concept in electronic controls for the new 645. We've abandoned many of the concepts and features that have made medium- and large-format cameras so unwieldy and substituted the latest innovations in camera electronics. Instead of a slow, noisy hand crank, there's a built-in automatic film winder. Instead of mechanical dials and switches, there's a functional, easy-to-use panel of electronic buttons. An easy-to-read LCD window monitors all important functions. The 645 control panel is years ahead of its time.

## Functional control panel layout

All electronic controls on the Pentax 645 are functionally arranged on the top panel of the body for easy access while shooting. The lefthand panel contains buttons for MODE, ISO setting and exposure compensation ( $\pm$ EF). These controls are activated by selecting buttons located between the righthand panel and the shutter release button. All control settings can be made in seconds without moving the hands from the shooting position. The lefthand panel also contains on/off switches for display panel illumination and viewfinder LED display. On the righthand panel, next to the selecting buttons, are large LCD readouts for all vital information concerning mode, aperture, shutter speed, flash status, ISO setting, exposure compensation and exposure count. Located between the selecting buttons and the shutter release is the main power switch. Switching off power does not erase previous control settings.



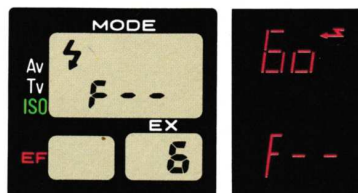
# Ahead of Its Time



### Programmed AE Mode

Set lens aperture ring to "A". Then, while pressing MODE, press selecting buttons until

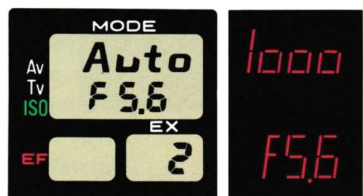
"Auto" plus "P" appear. Viewfinder LED display shows automatically-selected f-number and shutter speed.



### TTL Auto Flash Mode

Set lens aperture ring to appropriate f-stop. When the dedicated flash unit is completely

recycled, the shutter speed is automatically set to 1/60 second. Viewfinder LED display shows shutter speed of 1/60 second plus "F --," and "⚡" when flash is recycled.



### Aperture-Priority AE Mode 1

Set lens aperture ring to "A". While pressing MODE, press selecting buttons until "Auto"

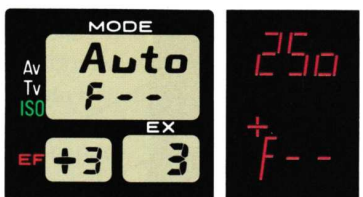
plus an f-number appear. Now choose f-stop with selecting buttons. Viewfinder LED display shows f-number plus automatically-selected shutter speed.



### Programmed Auto Flash Mode

Set lens aperture ring to "A". When the dedicated flash unit is completely

recycled, the shutter speed is automatically set to 1/60 second. The viewfinder will show "60," "⚡" and automatically-selected f-number. The LCD window will show "⚡".



### Aperture-Priority AE Mode 2

Set lens aperture ring to desired f-stop. While pressing MODE, press selecting buttons until

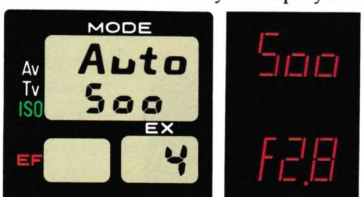
"Auto" plus "F --" appear. Viewfinder LED display shows only automatically-selected shutter speed. Exposure compensation factor from "-3" to "+3" is displayed on the LCD window; "+" or "-" only is displayed in the viewfinder.



### Bulb

Set lens aperture ring to appropriate f-stop. Then, while pressing

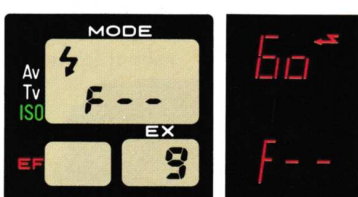
MODE, press selecting buttons until "B" appears. Viewfinder LED display also shows "B" plus "F--".



### Shutter-Priority AE Mode

Set lens aperture ring to "A". While pressing MODE, press selecting buttons until "Auto"

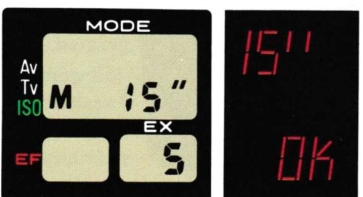
plus a shutter speed appear. Choose shutter speed with selecting buttons. Viewfinder LED display shows shutter speed plus automatically-selected f-number.



### Manual Flash

Set the camera on Metered Manual and adjust aperture manually according to the

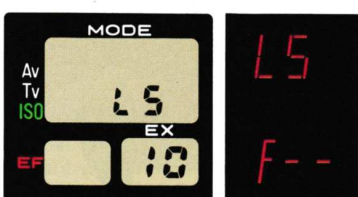
exposure scale on your non-dedicated flash unit. Shutter speed is set manually at 1/60.



### Metered Manual Mode

Set lens aperture ring to desired f-stop. While pressing MODE, press selecting buttons until

"M" plus a shutter speed appear. Viewfinder LED display shows shutter speed plus over/under exposure from -3 stops to +3 stops. Adjust f-stop or shutter speed until "OK" appears.



### LS Mode

When a leaf shutter lens is mounted on the camera body, the LCD window automatically

shows "LS" and the focal-plane shutter is set automatically at 1/8 second. Operation of the leaf shutter lens is manual and unmetred.



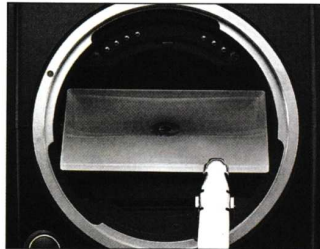
# Nomenclature





## Other Features

- ① Lens information contacts
- ② 645 lens mount
- ③ Lens alignment index
- ④ Preview lever
- ⑤ Lens release button
- ⑥ Focusing screen release lever
- ⑦ Grip pins
- ⑧ Strap rug
- ⑨ Exposure compensation button
- ⑩ Film speed button
- ⑪ Mode button
- ⑫ LED button
- ⑬ C/S switch
- ⑭ Illumination button
- ⑮ Diopter adjusting ring
- ⑯ Eyepiece
- ⑰ Film advance indicator
- ⑱ LCD window
- ⑲ Main switch
- ⑳ Shutter release button
- ㉑ Hotshoe
- ㉒ Selecting buttons
- ㉓ Battery holder
- ㉔ Film holder 645
- ㉕ Film holder key
- ㉖ Memo holder
- ㉗ Film wind knob socket
- ㉘ Vertical tripod socket
- ㉙ X-sync socket
- ㉚ Accessory guide hole
- ㉛ Multi-exposure ring
- ㉜ Shutter cocked indicator
- ㉝ Tripod socket
- ㉞ Lithium battery chamber
- ㉟ Battery holder release
- ㊱ Film wind knob chamber
- ㊲ Accessory guide hole
- ㊳ Grip lock screw



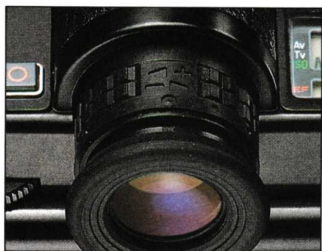
### Interchangeable focusing screens

A total of 5 interchangeable focusing screens are available for the 645. In addition to the standard split-image/microprism screen, microprism, split-image, matte and crosslined matte are available. Focusing screens are easily interchanged through the body mount.



### Multiple exposure ring

To capture two or more images in a single frame, turn the multiple exposure ring on the side of the camera before pressing the shutter release. This will prevent the film from advancing. The ring returns to its original position to prevent accidental multiple exposure.



### Diopter adjusting ring

To adjust for near- and farsightedness, a diopter adjusting ring with values from -5 to +2 diopters is built into the eyepiece.



### Preview lever

It is easy to preview the depth of field when the lens aperture is set manually for use in the Aperture-Priority AE 2 and Metered Manual modes. Just push the preview lever and the lens automatically stops down to the aperture setting you have selected, showing you exactly the range of focus.



### Lens information contacts

Information from SMC Pentax 645 series lenses is relayed to the camera body through electronic contacts inside the lens mount, making possible automatic aperture control modes.



### Film end detector

A pair of electrical contacts on the film pressure plate locates the end of the film when the last frame is advanced and stops winding automatically.



### Emergency film wind

The automatic film wind motor in the 645 becomes inoperable when batteries are exhausted. Should battery failure occur, the film may still be wound using the manual film wind knob stored in the base of the camera. In this operating mode, the camera may be operated only at 1/50 second shutter speed.



### C/S switch

The C/S auto-drive switch permits you to choose single frame shooting or consecutive shooting (1.5 frames per second with 120 and 220 film, and 1 frame per second with 70mm film).

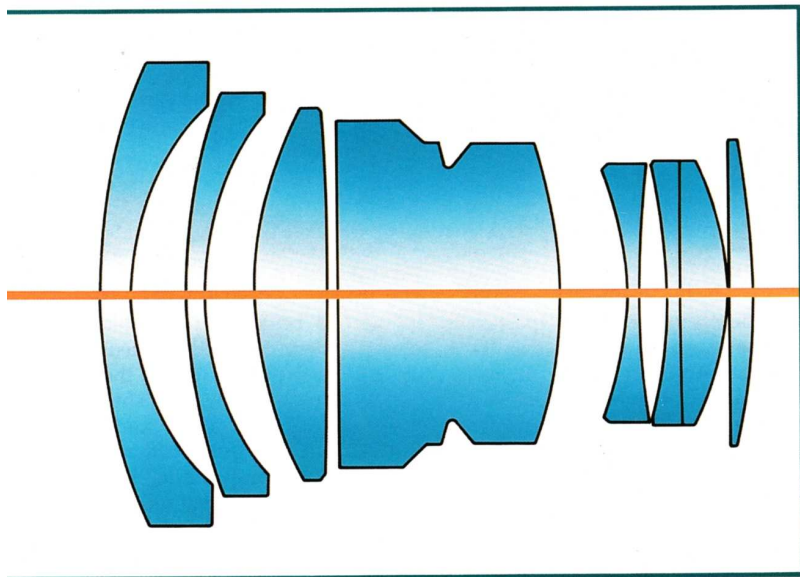


### Shutter cocked indicator

When the shutter cock and film advance operation is completed, the indicator turns red to show the camera is ready for the next exposure.



## Superior Optics in Pentax 645 Lenses



All Pentax 645 lenses live up to the outstanding optical and mechanical capabilities of the 645 body and to Pentax's unexcelled reputation as a lens maker.

The Pentax 645 lenses, like all Pentax lenses, are of superior optical quality. Our engineers start with the finest materials — specially selected high-grade optical glasses. Lenses are then manufactured in accordance with advanced computer-generated optical designs and rigid production and inspection procedures.

Optical performance is improved further by Pentax's exclusive Super-Multi-Coating (SMC), a seven-layer process that reduces reflection ratio to an exceptionally low 0.2% per

lens surface. SMC lenses produce images that are brighter, superior in resolution, color balance and image contrast, and remarkably free of ghost images and flare.

All Pentax 645 lenses are designed especially for the 645 camera, which means they are durable and built to exacting professional standards. All feature precision bayonet mounts, and all except the leaf shutter lens have special electrical contacts for automatic aperture control.

The lenses now available with the 645 offer a full range of focal lengths, and many more lenses will be added to the range in the next few years. In addition, 13 of Pentax's highly acclaimed 67-system professional lenses may be used on the 645 body with an adapter.

Two 645 lenses are available in the wide-angle range: a 45mm and a 55mm (roughly equivalent to the 28mm and 35mm lengths in the 35mm format). In the standard 75mm focal length (equivalent to 45mm in the 35mm format), we offer two lenses: an automatic-aperture lens for use in the 645 auto modes and a leaf shutter model that makes possible flash synchronization up to 1/500 second and may be used in the manual mode. In the telephoto range, there is a 150mm lens (equivalent to 90mm in the 35mm format), an 80mm-160mm zoom lens, and a 300mm ED[IF] telephoto that features inner focusing and extra-low-dispersion optical elements.

Together, the 645 lenses provide a wide range of creative tools for a variety of photographic situations.

### Pentax 645-Compatible 67-System Lenses

Name of Lens	Minimum Aperture	Angle of View (Degrees)	Lens Construction (Groups-Elements)	Diaphragm	Minimum Focusing Distance (m) (ft.)	Maximum Diameter & Length (Ømm × mm)	Weight (g) (oz.)	Filter Size (mm)
SMC Fish-Eye-Takumar 67 35mm f/4.5	22	180	7-11	FA	0.45 1.5	102 × 73	920 32.2	*
SMC Pentax 67 45mm f/4	22	88	8-9	FA	0.37 1.2	91.5 × 57.5	485 17.0	82
SMC Pentax 67 55mm f/4	22	77	8-9	FA	0.40 1.3	91.5 × 75.5	615 21.5	77
SMC Takumar 67 75mm f/4.5	22	61	4-5	FA	0.70 2.3	91.5 × 81	700 24.5	82
SMC Pentax 67 90mm f/2.8	22	52	5-7	FA	0.65 2.1	91.5 × 57.5	485 17.0	67
SMC Takumar 67 105mm f/2.4	22	45	5-6	FA	1.00 3.3	91.5 × 60	628 22.0	67
SMC Macro-Takumar 67 135mm f/4	32	36	3-5	FA	0.75 2.5	91.5 × 95	645 22.6	67
SMC Pentax 67 165mm f/2.8	22	30	5-6	FA	1.60 5.2	91.5 × 98.5	835 24.2	67
SMC Takumar 67 200mm f/4	22	26	4-4	FA	2.50 8.2	91.5 × 120	900 31.5	67
SMC Takumar 67 300mm f/4	45	17	5-5	FA	5.00 16.4	93 × 186	1,425 49.9	82
SMC Takumar 67 400mm f/4	45	12	5-5	M	8.00 26.2	115 × 287	2,570 90.0	77
SMC Takumar 67 600mm f/4	45	8	5-6	M	12.00 39.4	170 × 370	6,000 210.0	77
SMC Pentax-M* 67 800mm f/6.7 ED[IF]	45	6	8-9	FA	8.00 26.2	150 × 570	6,000 210.0	67

FA=Fully Automatic M=Manual \*UV, Y2, O2 & R2 filters built-in Note: Length does not include mount portion.





SMC PENTAX-A 645 45mm f/2.8



SMC PENTAX-A 645 55mm f/2.8



SMC PENTAX-A 645  
75mm f/2.8



SMC PENTAX 645  
L.S 75mm f/2.8



SMC PENTAX-A 645 150mm f/3.5



SMC PENTAX-A 645 Zoom 80mm-160mm f/4.5



SMC PENTAX-A\* 645 300mm f/4 ED [IF]



REAR CONVERTER 645-A 1.4X  
for 300mm f/4 ED [IF] Lens

## Pentax 645 Lenses

Name of Lens	Minimum Aperture	Angle of View (Degrees)	Lens Construction (Groups-Elements)	Diaphragm	Minimum Focusing Distance		Maximum Diameter & Length (Ømm × mm)	Weight		Filter Size (mm)
					(m.)	(ft.)		(g)	(oz.)	
SMC Pentax-A 645 45mm f/2.8	22	76	8-9	FA	0.45	1.5	74 × 66.5	400	14.0	67
SMC Pentax-A 645 55mm f/2.8	22	65	7-8	FA	0.45	1.5	74 × 60.5	410	14.4	58
SMC Pentax-A 645 75mm f/2.8	22	50	5-6	FA	0.6	2.0	74 × 37.5	240	8.4	58
SMC Pentax 645 L.S 75mm f/2.8	22	50	5-6	FA	0.75	2.5	76 × 49.5	365	12.8	58
SMC Pentax-A 645 150mm f/3.5	32	26	4-4	FA	1.4	4.6	74 × 71.5	440	15.4	58
SMC Pentax-A* 645 300mm f/4 ED [IF]	32	13.5	8-8	FA	3	9.8	93 × 208	1,360	47.6	77
SMC Pentax-A 645 Zoom 80mm-160mm f/4.5	32	47-24.5	11-11	FA	1	3.3	82.5 × 131	1,020	35.7	77

FA=Fully Automatic

Note: Length does not include mount portion.



## Dedicated TTL Flash Units



Through-the-lens flash photography presents the photographer with a world of creative new possibilities. Bounce flash, hand-held flash, multiple flash and close-up flash photography can all be accomplished with no bothersome calculations or guesswork. Instead, flash illumination is measured by a precise metering cell as it comes through the lens and reflects off the film plane. When enough light has reached the film, including both flash and ambient light, the flash is automatically terminated. Thus correct exposure is assured at any aperture. A variety of dedicated TTL flash units are available with the Pentax 645, from the most compact to the most powerful professional units.

• AF400T



• AF280T



• AF200T



### AF400T

This is a professional unit for those who require added power and power source options. It offers TTL, three power settings with Auto Flash, and four power settings with manual operation. Its rotating flash head can be adjusted 270° horizontal, 90° vertical and features a -15° setting for close-ups. The AF400T offers a choice of four power supply sources.

### AF280T

This handy and versatile unit features a rotating flash head with 270° horizontal and 90° vertical settings plus a -15° setting for close-up work. Like the AF200T, it has TTL and Auto Flash settings and two aperture settings. The rotating head is especially useful for bounce or angle flash in the TTL mode.

### AF200T

This is a compact and lightweight unit designed for use in TTL and Auto Flash modes. Correct flash exposure confirmation is indicated by both viewfinder indicator and audible signal. It gives a choice of two aperture settings.

- ① ISO film speed scale
- ② L distance scale
- ③ Auto flash range indices
- ④ Distance scale
- ⑤ Flash mode selector lever
- ⑥ Viewfinder auto check switch
- ⑦ Aperture scale
- ⑧ Flash ready lamp
- ⑨ Power switch
- ⑩ Test button
- ⑪ Auto exposure check lamp



# Convenient Infrared Remote Control System



With the Pentax infrared remote control system, you can operate the camera from up to 60 meters away using a compact remote control transmitter. You can control either shutter release or remote flash. With a transmitter and any number of receiver units, you can accomplish tasks that would be impossible for a single photographer with conventional equipment.

For instance, you can trigger the camera's shutter release at a distance for wildlife photography, candid shots, scientific experiments or in other situations where the photographer cannot be physically present at the scene. Or the remote control can be used to activate several remote flashes, for convenient multiple-flash studio work. You can even mount the transmitter on the camera you are using and trigger up to three remote cameras or flash units, for photographing or illuminating a subject from a number of different angles. In addition, the transmitter unit has three channels for individual control of up to three cameras or flash systems.

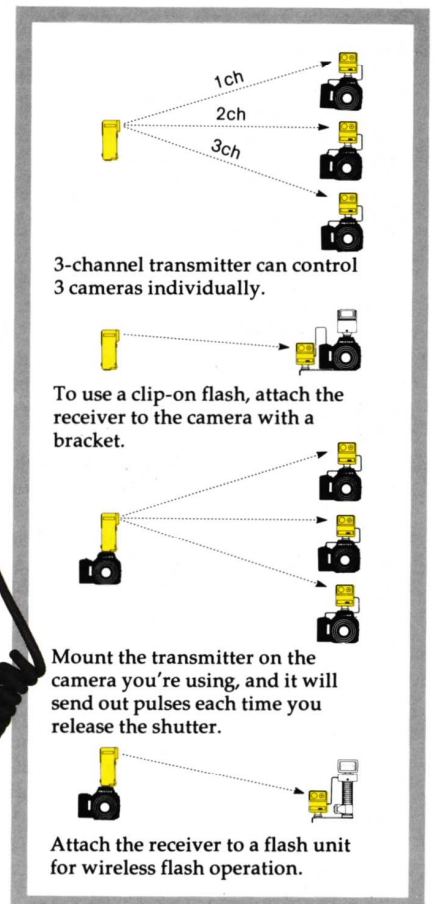
## Transmitter

The compact, powerful infrared transmitter has settings for single or consecutive shooting, three channel settings, a transmit switch and a hotshoe mount.



## Receiver

Each receiver unit attaches to the camera or flash unit for wireless operation. It receives any of three channels at a maximum distance of about 60 meters.





## Pentax 645 Accessories



### **120 Film Holder 645**

Film holder/camera back for 120 film. Spacing between frames is automatically adjusted for 120 film. Holds film for 15 exposures.

### **220 Film Holder 645**

Film holder/camera back for 220 film. Spacing between frames is automatically adjusted for 220 film. Holds film for 30 exposures.

### **70mm Film Holder 645**

Film holder/camera back for 70mm film. Spacing between frames is automatically adjusted for 70mm film. Holds film for approximately 90 exposures. (Available soon.)

### **SMC Pentax Close-Up Lens S33 and S56 (58mm)**

Close-up lenses screw onto the front of the main lens for simple close-up photography at two magnifications.

### **Large Copy Stand II**

Provides rigid support for copy work and macro photography. (Available soon.)

### **Auto Bellows 645**

Bellows unit fits between lens and camera body for extreme close-up photography. Can be used in Aperture-Priority AE mode. (Available soon.)

### **Macrophoto Stand 645**

Holds camera, lens and close-up attachments firmly in place for close-up and macro photography. Reversible gray/black stage plate is included. (Available soon.)

### **Slide Copier 645**

Slide Copier 645 is used to duplicate 6 × 4.5-format transparencies onto other 645 film. (Available soon.)

### **Slide Copier 645 for K-Mount SLR**

Used to copy 6 × 4.5-format transparencies onto 35mm film with K-mount SLR camera. (Available soon.)

### **Auto Extension Tube-A 645 (No.1, No.2 & No.3)**

Set of three tubes can be used singly or in any combination for close-up photography in all modes except Programmed Auto Flash. Magnification is from 0.35X to 1.22X with standard 75mm lens.

### **Helicoid Extension Tube 645**

Magnification can be adjusted from 0.57X to 1.06X (with standard 75mm lens) by means of an internal helicoid. Automatic aperture control is not available.

### **58mm Reverse Adapter 645**

Allows lenses to be mounted in reverse on bellows, extension tubes, etc., for macro photography.

### **Reverse Attachment 645**

Permits manual adjustment of aperture opening with lens mounted in reverse. Also protects bayonet mount and electronic contacts.

### **Adapter 645 for 67-System Lenses**

Allows Pentax 67-System lenses to be used on the Pentax 645 body. Aperture-Priority AE 2, Metered Manual and TTL Auto Flash modes can be used.

### **Adapter K for 645 Lenses**

Allows Pentax 645 lenses to be used on Pentax 35mm bayonet-mount bodies.

### **AF400T Bracket for 645**

Attaches AF400T flash unit to camera via tripod socket in base of camera. Flash unit can be easily detached and replaced without removing bracket. Tripod can be attached to base of bracket.

### **Quick Shoe 645/67**

Top section screws into camera's tripod socket; bottom section is attached to tripod. Camera can be attached to and removed from tripod in seconds.

### **Hot Shoe Adapter LS**

Adjusts flash synchronization of Pentax dedicated flash units for use with 75mm LS lens. (Available soon.)

### **Interchangeable Focusing Screens 645**

Easy to remove focusing screens available with the Pentax 645 include:

Split image with surrounding microprism collar on matte field: excellent for most general applications.

Central microprism grid on matte field: also excellent for general applications.

Split image on matte field: ideal for those who want a relatively plain screen or those with less-than-perfect vision.

Matte field: good for portraits or other situations where entire frame should be plainly visible.

Crosslined matte: ensures accurate alignment, especially with architectural subjects, and when using shift lens or double exposures.

### **Refconverter 645**

This 90° eyepiece attaches to the viewfinder for easier low-angle photography. Image is both laterally correct and unreversed.

### **Finder Eyepiece 645 for 70mm Film Holder**

Extended viewfinder eyepiece allows easy viewing with 70mm film holder. (Available soon.)

### **Magnifier 645**

Attaches to viewfinder for critical focusing. Magnification is 2X. (Available soon.)

### **Rubber Lens Hoods**

Rubber lens hoods to reduce glare are available in 58mm, 70mm and 77mm sizes.

### **Remote Battery Pack 645**

Attaches to the hand grip via extension cord for better battery performance in cold weather and extended operating time.

### **Power Cord 645**

Connects detached hand grip to camera body for remote shutter release or warm storage of batteries.



# Specifications

<b>Type:</b>	6 × 4.5 format SLR with multi-mode automatic exposure controls and built-in motor drive
<b>Exposure Modes:</b>	Programmed AE, Aperture-Priority AE, Shutter-Priority AE, Metered Manual, TTL Auto Flash, Programmed Auto Flash, and Leaf-Shutter Lens modes.
<b>Exposure Control Mode Selection:</b>	Via mode setting buttons and aperture ring of 645 lens.
<b>Film:</b>	120 film (15 exposures), 220 film (30 exposures) and 70mm film (approx. 90 exposures).
<b>Picture Size:</b>	56mm × 41.5mm
<b>Lens Mount:</b>	Pentax 645 bayonet mount (with electronic contacts)
<b>Shutter:</b>	Electronically-controlled vertical-run cloth focal-plane shutter, from 15 to 1/1000 sec., 1/60 sec. and B. Electro-magnetic shutter release.
<b>Exposure Information in Viewfinder:</b>	LED indication for lens aperture, shutter speeds and exposure factor warning, out-of-meter coupling and shutter/aperture coupling range warning, flash-ready signal, flash confirmation signal, Flash sync at 1/60 sec. [60], Bulb [B], and Leaf-Shutter Lens [LS, F--].
<b>External Indication:</b>	Liquid crystal displays (LCD) indicate Programmed AE [Auto, P], Aperture-Priority AE [Auto, f-number], Shutter-Priority AE [Auto, shutter speed], Aperture-Priority AE (lens aperture set manually) [Auto, F--], Metered Manual [M, shutter speed], Flash sync at 1/60 sec. [60], Bulb [B], Leaf-Shutter Lens [LS, F--], exposure factor, ISO film speed, exposure count, and flash-ready signal.
<b>Flash Synchronization:</b>	Via hotshoe (X-sync contact, dedicated flash contacts) and X-sync socket. X-sync speed at 1/60 sec. Slow shutter speed synchronization possible in Metered Manual mode.
<b>Viewfinder:</b>	Keplerian telescopic viewfinder with split-image/microprism Clear-Bright-Matte screen. (Interchangeable focusing screens available.); Viewing area 92% vertical and 93% horizontal, 0.75X magnification with 75mm lens at infinity and -1 diopter. Diopter adjustment possible from -5 to +2 diopters.
<b>Mirror:</b>	Instant return mirror.
<b>Film Loading:</b>	120 and 220 films semi-automatically loaded with start mark; 70mm film automatically loaded.
<b>Film Winding:</b>	Automatic film winding by motor drive with single/consecutive shooting modes. (Single: 1 frame/sec. Consecutive: approx. 1.5 frames/sec.) Film winding automatically stops at end of film trailer.

<b>Exposure Counter:</b>	LED indication. Additive type. Automatic resetting by LCD. Automatically sets shutter speed at 1/1000 sec. up to first frame. Exposure count not advanced in multiple-exposure mode.
<b>Multiple Exposure:</b>	Via multi-exposure ring. Cancellation possible.
<b>Exposure Metering:</b>	Open-aperture, center-weighted TTL metering by GPD cells. Off-the-film metering for dedicated TTL automatic electronic flashes.
<b>Exposure Range:</b>	From EV 3 (f/2.8 at 1 sec.) to EV 19 (f/22 at 1/1000 sec.) with 75mm f/2.8 lens with ISO 100 film.
<b>Exposure Compensation:</b>	Via exposure factor button. Settings at +3, +2, +1, 0, -1, -2, and -3.
<b>Depth-of-Field Preview:</b>	Via preview lever when aperture set manually.
<b>Power Source and Battery Life:</b>	Six 1.5V "AA" batteries (Manganese, Alkaline or Ni-Cd) for exposure control/display circuits and motor drive. Power automatically turned off 30 seconds after the return of shutter release button.

	Power Source		
	Manganese Battery:	Alkaline Battery:	Ni-Cd Battery:
<b>120 Film</b>	Approx. 100 rolls	Approx. 250 rolls	Approx. 100 rolls
<b>220 Film</b>	Approx. 70 rolls	Approx. 170 rolls	Approx. 70 rolls
<b>70mm Film</b>	Approx. 20 rolls	Approx. 50 rolls	Approx. 20 rolls

<b>Memory Power Source:</b>	One built-in lithium battery for exposure data memory circuits. Minimum battery life 5 years. (Replaced at Pentax service center.)
<b>Size:</b>	147mm (W) × 109mm (H) × 117mm (D) (5.7" × 4.3" × 4.6") with Film Holder and Grip 645.
<b>Weight:</b>	1,280g (45.1 oz) with lithium battery, Film Holder and Grip 645.



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