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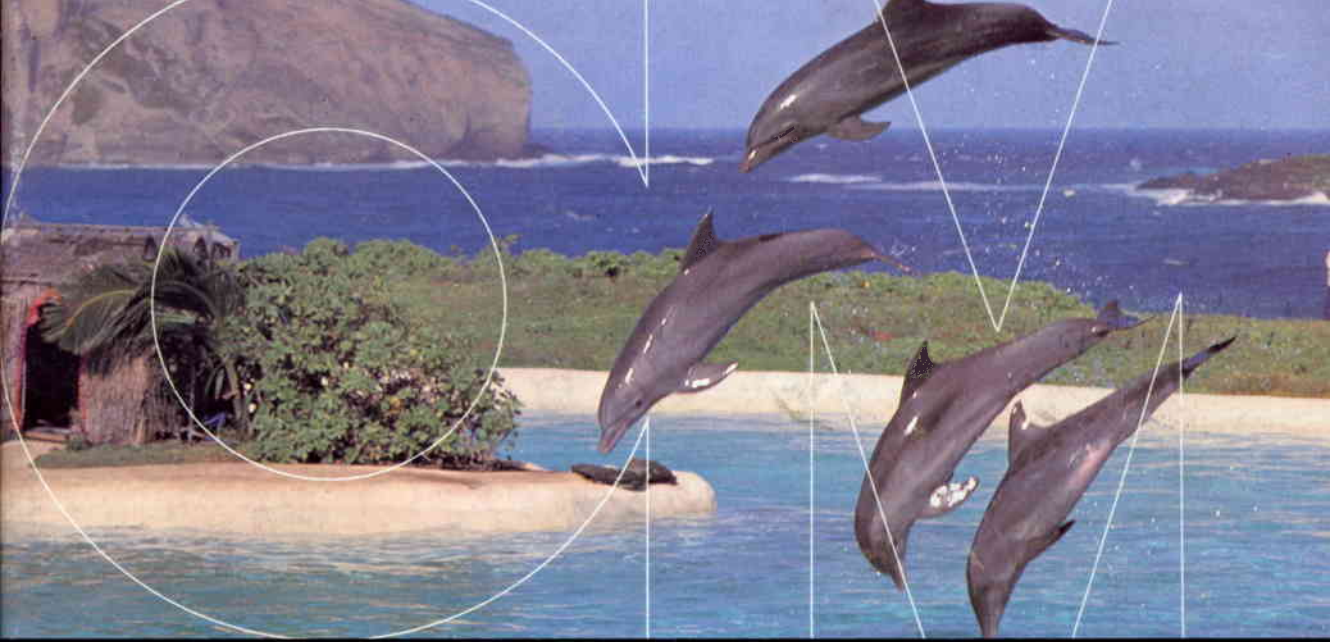

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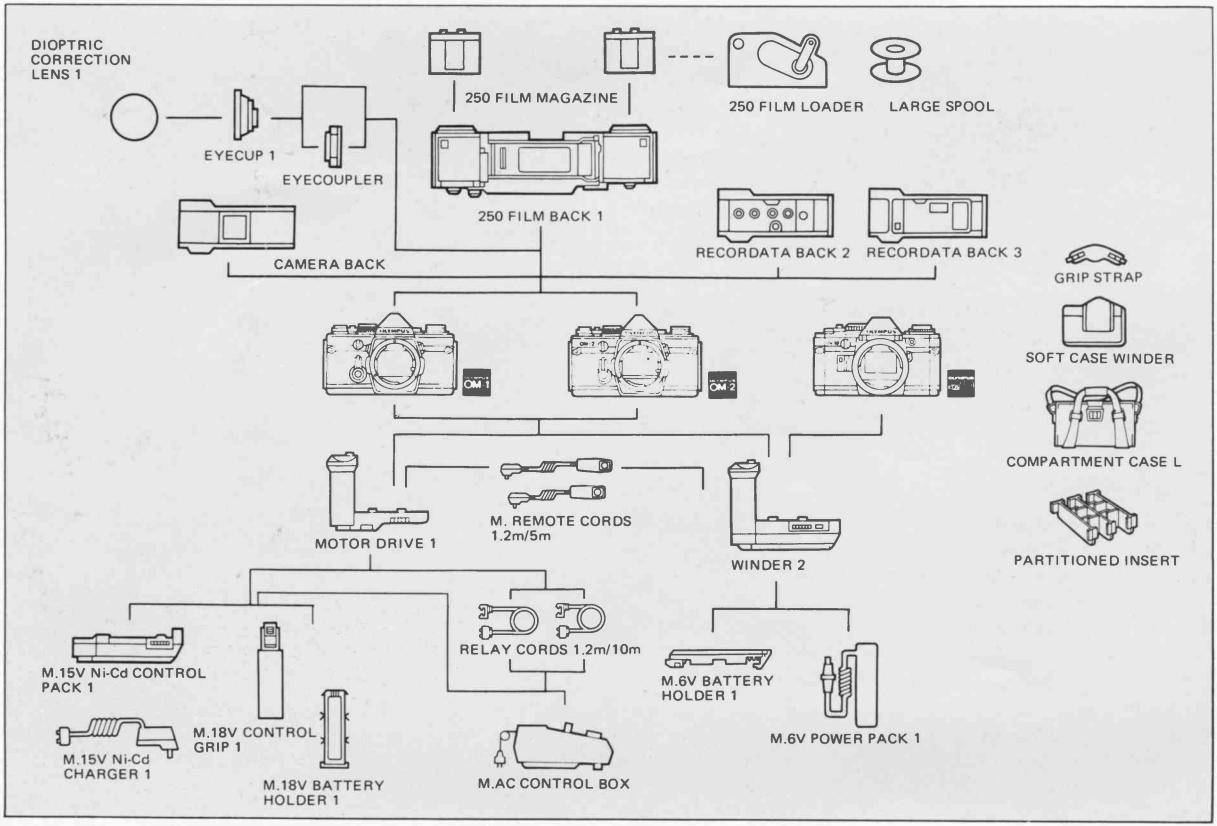
OLYMPUS OM SYSTEM

MANUAL FOR MOTOR DRIVE GROUP

THE FULLY COMPREHENSIVE OM MOTOR DRIVE GROUP



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OM SYSTEM

Today, the motor-drive is an indispensible part of any SLR camera system. And the reason is the complete permeation of the idea that as many of the camera operations as possible should be automated in order to ease the cameraman's burden, leaving him free to concentrate on making the decisions that are the real essence of camera work. Thus, the automation of a purely mechanical operation such as film advance is only natural. And, since it is faster than manual film advance, the use of a motor-drive is advantageous for photography where the capturing of fleeting opportunities is most important.

Nevertheless, if the original excellent mobility of the compact, lightweight SLR camera is lost due to the added weight of a motor-drive, the whole thing becomes meaningless. The motor-drive, therefore, should be removable from the camera when not needed and should be compact and high-performance to prevent losing the original ease of operation of the camera.

The Motor Drive 1 and Winder 2 for the Olympus OM cameras fully satisfy these conditions. These devices not only eliminate the bother of manual film advance while performing the job quickly, they also provide continuous automatic operation when the shutter release is held down.

Capturing the Decisive Moment with High-speed Continuous Photography

It is said that in order to capture the decisive moment when photographing moving subjects it is necessary to predict the movement of the subject slightly ahead of time and then release the shutter at the opportune instant. Releasing the shutter once the opportunity is seen through the viewfinder is too slow. Approximately 1/10 second delay occurs while the opportunity is recognized and the command is sent along the nervous pathways to the finger to release the shutter. And another similar delay occurs from the time the shutter is released until it actually opens to make the exposure. These delays clearly indicate the need to predict the action as described above.

Making such predictions and judgments, however, requires a special feeling. And is especially difficult with several subjects, or subjects that are moving in complex ways. But the motor-drive displays its abilities in just such cases. Because it is possible to start the motor-drive slightly before the peak of the action, shoot a continuous sequence of frames and later select the best shot. This one best frame will often prove to be an outstanding shot that could not have been anticipated beforehand.

The chance of capturing a good shot with continuous photography increases with the number of frames per second that can be obtained. If the number of frames per second is small, the chance of missing an opportunity between frames increases. From this viewpoint, the Olympus Motor Drive 1 with its 5-frames-per-second capability, the fastest motor-drive available for an SLR camera, provides an excellent chance of capturing just the right instant.

The Winder 2, in spite of its name, provides 2.5 frames per second operation, similar to that of the motor-drives of other companies, in addition to single-frame operation. Consequently, the advantages of sequence photography described above can also be enjoyed with the Winder 2. The performance is more than enough for shots of moving subjects and snapshots where professional level high-speed sequence photography is not required. If the price and portability are considered, the Winder 2 is optimal for amateur cam-

eraman use. And it is possible to capture the decisive moment with sequence photography using this winder. There are some people who say that photographs taken with sequence photography using a motor-drive are determined by the camera without the photographer's will being incorporated. But this is an extremely conservative way of thinking. If it is considered that the photographer's will and technique are fully utilized in determining when it is appropriate to use a motor-drive and when to start the motor while correctly focusing and framing the shots as he follows the subject, it can be easily understood that it can never be said that the camera itself is responsible for the photographs.

In any event, everyone feels a deep pleasure when looking at a photograph in which a decisive moment has been captured. Since this is true, it can be said that the positive thinking photographer should strive to get the most out of his equipment in order to capture such instants.

The Role of High-speed Photography in Preventing Blurring

Besides the attractions of high-speed photography described above, the motor-drive also has another merit in that it advances the film automatically. When an exposure is made, the film is immediately advanced, preparing the camera for the next shot. And this is extremely effective in preventing lost chances.

Veteran cameramen are frequently heard boasting that they don't need an auto winder because they can wind the film manually at the rate of 2 frames per second. Of course, such speed is possible. But winding the film under actual shooting conditions causes the camera to be removed from the eye briefly, the direction the camera is aimed changes, and the cameraman's attention is briefly taken away from the subject. And blurring frequently occurs when the shutter is released before the camera is stabilized after winding the film.

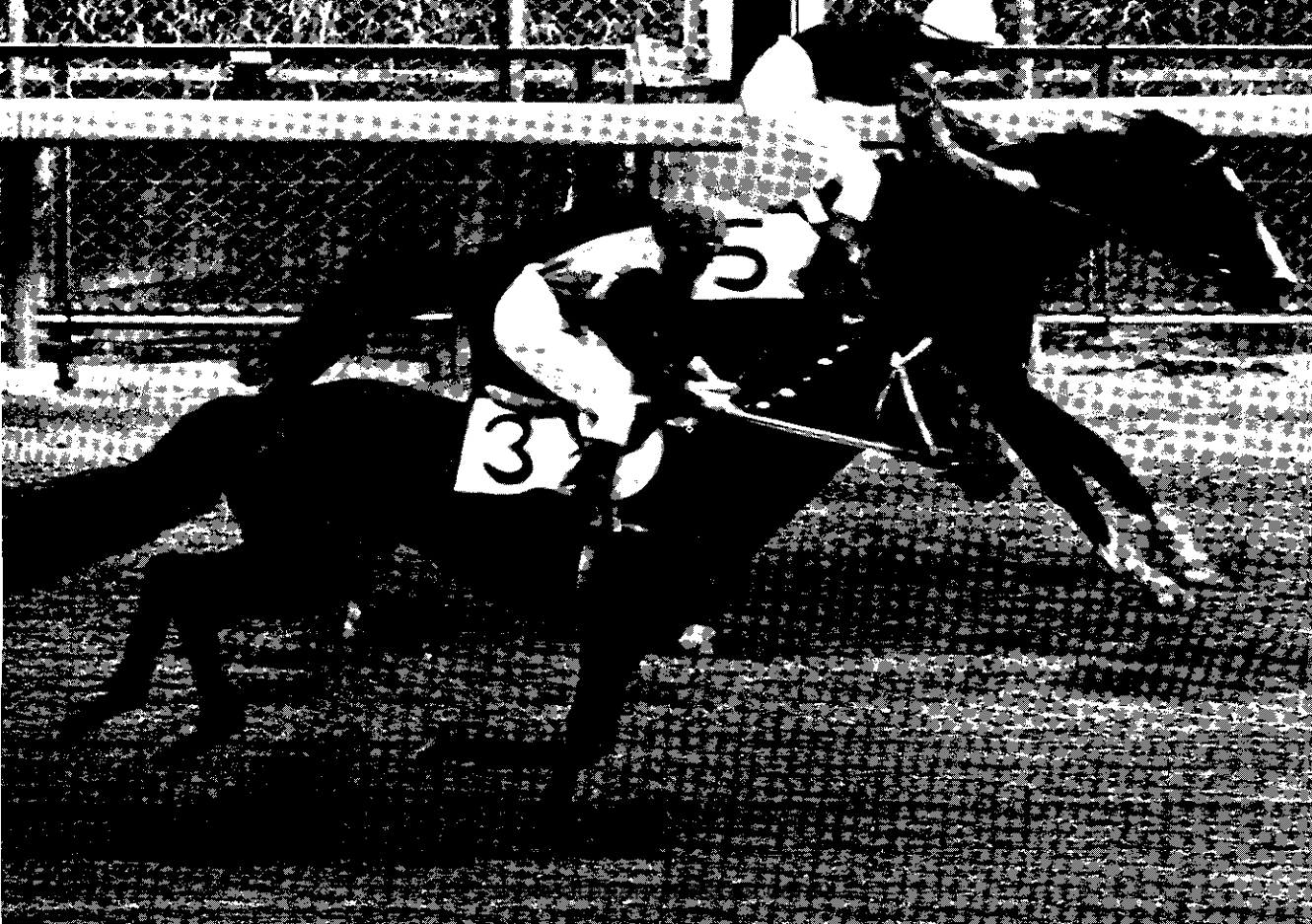
With a winder, it is possible to follow the subject continuously without ever taking the eye away from the shutter while holding the camera firmly, so the shutter can be released anytime without the fear of blurring.

It frequently occurs while shooting that an extra good chance occurs immediately after a shot was taken. Manual winding is often too late in such cases. And it is here that the true value of the winder can be appreciated.

For these reasons, single-frame photography using a motor-drive or winder is an extremely effective tool for photographers who wish to be able to release the shutter anytime they wish.

The decision of whether to use single-frame or sequence photography can be freely made by you the cameraman in accordance with the conditions prevailing at that time.

(Akio Kojima)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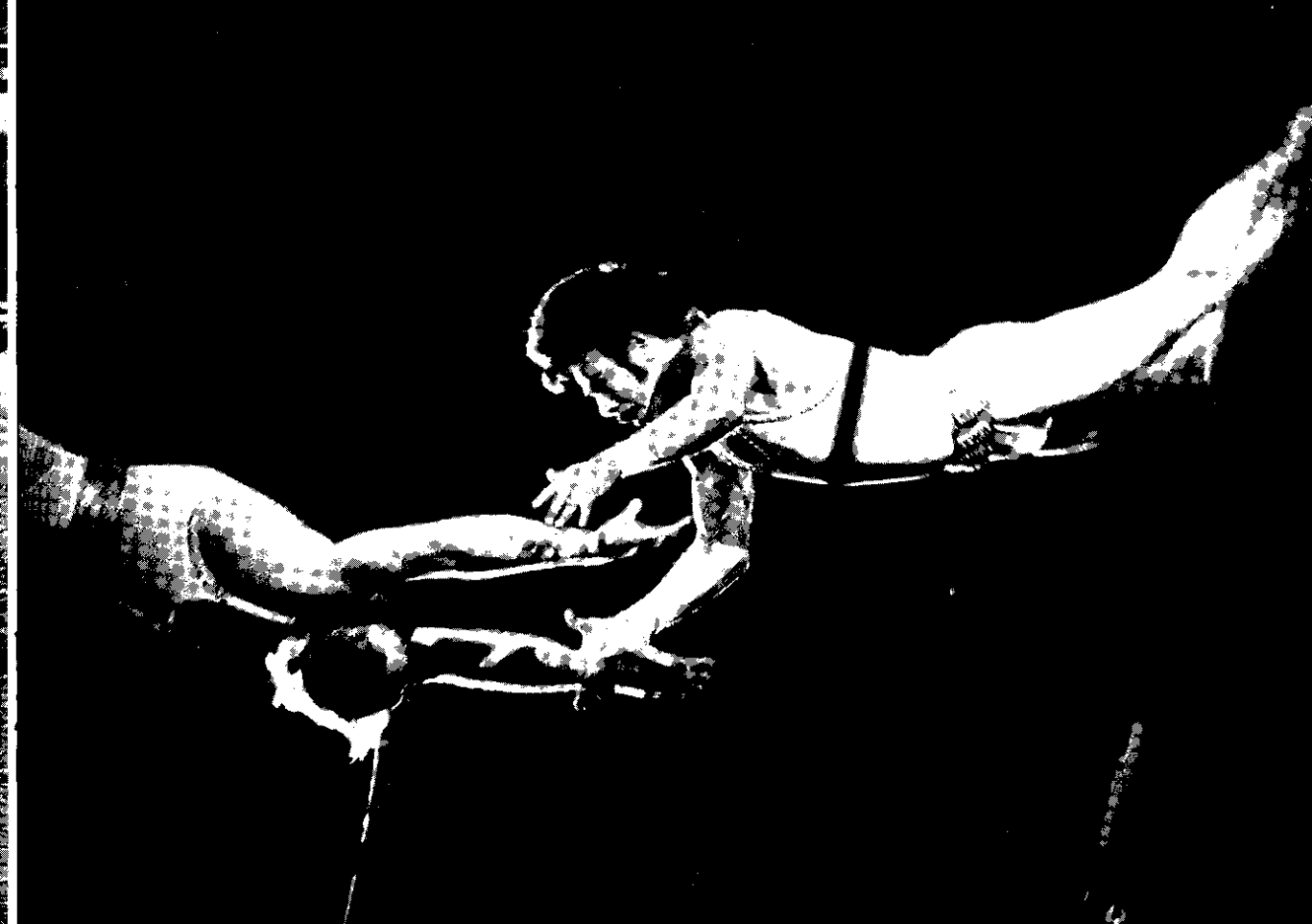

The previous explanation gave you some idea of the convenience and effectiveness of using a motor drive with single lens reflex cameras such as the OM-1 and OM-2. The following will explain the use of the motor drive for photographing people, one of the favorite subjects of almost all photographers.

Human beings are sometimes called emotional animals. And the emotion of the moment is always shown, no matter how still the person may be. One of the most interesting things about photos is their ability to reflect subtle changes in expression or to help discover something in others that matches one's own image.

In other words, the purpose of the photograph is to fix human expressions on a sheet of photographic paper in such a way that the viewer is impressed that he is looking at a living person.

When people are still there is a problem of how to show movement, but human emotion is expressed most clearly by the eyes. The eyes clearly show whether a person is happy or sad.

Next is the mouth because when the mouth moves the eyes move in accordance. So always notice these two parts. When the hands are also added, a fair amount of movement can be expressed, even if the subject is perfectly still.

Thus, by aiming to include the functions of expression of the human being, movement can be expressed in a photograph. Until now, technical method of achieving this has been camera angle coupled with the element of chance. When a subject does not move or change expression one can change the camera angle or position to show a certain degree of movement.

When the subject is a child or old person, patience is demanded; otherwise, results will be unsatisfactory. But if you persevere in capturing the movements and expressions of that person, you will have a living photograph.

The expression "feeling of movement" can be defined in two ways. According to the dictionary it means "having a feeling of being in movement." Another definition is "the impression given by a photograph in which the subject is blurred as though moving." However, merely photographing a naturally-moving subject does not guarantee that the photograph will have a feeling of movement. This is really a matter of chance. Discovering just when a movement expresses emotion most clearly or which part of a movement will appear most strongly in the photograph is extremely difficult.

The motor drive is an extremely valuable device for overcoming this difficulty. It almost thinks for the photographer to discover the perfect shot in any moving situation.

(Kiyoshige Ikeda)

ACTION PHOTOGRAPHY AND THE MOTOR DRIVE

Automated and featuring improved operability, modern cameras are doubtless easier to handle than those of the past, but the procedure of determining exposure, focusing, composing, and releasing the shutter has not changed. It is no problem to photograph immobile or slowly moving subjects, but shooting a number of photographs of rapidly moving subjects tests the camera operation and the ability of the photographer to the maximum limit.

The motor-drive and winder are the solution to this irritating problem of cameramen. As the name implies, a motor-drive is an accessory that can be attached to a camera to enable superman-like high-speed photography. With speeds of up to 5 frames per second, operation is nearly three times faster than is possible manually. Even the Olympus Winder with its speed of 2.5 frames per second is more than 30% faster than the speed of a professional cameraman shooting manually at top speed.

Ultra high-speed racing machines which can exceed 300kph and motocross machines that practically leap and bound over the ground can change their directions and turns in one second. The expression of the racer operating the machine also changes. And the ultimate tool for continuously shooting such subjects as they appear without taking the eye away from the finder is the motor-drive or the winder.

The type of apparatus required for effectively arresting the machines which moves rapidly from bright to dark location, from direct sunlight to deep shadow is an automatic exposure camera such as the Olympus OM-2 or OM-10 combined with an automatic film advance device so that determination of exposure can be left to the camera and film advance left to the motor-drive or winder; and the photographer is left free to concentrate this abilities on framing and focusing.

The main problems that usually occur regarding motor-drive are that they are heavy and that winding speeds are affected by the shutter speed selected so that the winding speed must be selected beforehand. The Olympus motor-drive, however, starts winding immediately as soon as the shutter has completed its movement, no matter how slow the shutter speed. There is no need to worry about the relationship between shutter speed and winding speed. And the unit is compact and lightweight so that even 3 or 4 cameras equipped with motor-drive or winder can be carried without difficulty.

A motor-drive or winder simplifies camera operation for the photographer and enables him to concentrate on the handling of the subject. And a motor-drive or winder could now be said to be indispensible when using long focus or telephoto lenses.

In the world of high-speed photography too fast for human capabilities, in the world of instantaneous change, even where the subjects require that the photographer be at a distance from the camera, the motor-drive and winder make the impossible possible.

The most admirable feature of the Olympus system is the extreme compactness and light weight. Comparing with the same type of equipment available from other companies, one can see how advanced Olympus equipment is. Of special note is the winder, which was designed to be compatible with the Olympus OM-1, OM-2 and OM-10 while providing both single-frame and high-speed operation.

(Kazuhiko Mitsumoto)


JAPAN
3

ANIMAL PHOTOGRAPHY AND THE MOTOR DRIVE

Perhaps because it's my field, but it appears to me that the motor drive was developed exclusively for the purpose of photographing animals. So convenient is its use in this field, and so wide are its applications, that the state of the art would suffer a great setback without it. The behavior of animals is extremely unpredictable and they move so swiftly that the motor drive is just about the only means available to capture the subtleties of their behavior on film.

Moreover, almost all animal photography is performed outdoors. And the principal prerequisite for outdoor photography is the photographer's maneuverability. This is where the OM System's motor drive shines. Apart from being the world's smallest and lightest, it is extremely easy to use. And working together with either the OM-1 or OM-2 camera as an integral unit it is a highly efficient piece of equipment.

Another precondition for effective animal photography, which the Olympus motor drive more than adequately fulfills, is the ability to follow the subject closely with the viewfinder while shooting. As the mirror functions normally (i.e., doesn't have to be locked up) even at five frames per second with the Olympus motor drive throughout the entire sequence run, once the subject is in your sights he's yours forever.

Today, animal photography is enjoying a rise in popularity, and this is sure to increase the demand for motor drives as well. For those interested or just starting out in the field and planning to use a motor drive, I would like to give a few pointers.

First of all, perhaps the best way to gain an understanding of the basics of animal photography, and to master the fundamentals of motor drive operation as well, is to visit the zoo. Although, generally speaking, animals in cages do not move very fast, the zoo, nonetheless, serves as an excellent place for learning about them. It permits long hours of observation which gives the photographer a chance to ingrain the animal's behavior pattern on his mind. One must make allowances for a certain amount of wasted film at first, of course, but trial and error is the best way of gaining the knack of anticipating the best moment to release the shutter. In this respect, it is also important to note that birds, whether in captivity or wild, have a strong sense of danger and should be approached with extreme care so as not to frighten them with shutter noise.

The next step in the mastery of animal photography, is to practice shooting house pets. I like to take pictures of the family cat. Nothing quite can compare with photographing the shrewd body movements, vicissitude of expression, and complex behavior of a cat for mastering the difficulty and realizing the beauty of sequential photography.

Once having gone through the above steps you are ready to go out into the wild for actual field work. This is where my hobby of taking pictures of cats really comes in handy. Its surprising how similar the behavior of the common house cat is to lions, cheetahs, panthers and other members of the cat family.

For actual outdoor photography with a motor drive, superb results can be obtained by using remote control equipment. Again, taking into consideration the inborn sense of dangers that most all animals have, it often

(Continued on page30.)

● **Winder 2 of the Olympus OM System is provided with two modes:** single-frame film advance and continuous automatic film advance at up to 2.5 frames per second. This convenient winder enables the photographer to select the appropriate mode for the work being done.

Here we are going to discuss effective methods of applying the winder in the world of rapid shooting using single-frame film advance. Refer to the separate item concerning sequence photography with a motor-drive or winder.

● **Freedom from forgetting to advance the film:** Every photographer who has taken photographs for any length of time has had the painful experience of encountering a wonderful opportunity and pressing the release button only to find that he had forgotten to advance the film and cock the shutter. If the Motor Drive 1 or Winder 2 is attached to an Olympus OM camera and set for single-frame operation, the film is advanced instantly after each exposure so failures due to forgetting to advance the film are eliminated.

● **No need to remove the eye from the viewfinder:** A more interesting scene could occur immediately after taking what was thought to be a good shot. Missing such a chance because the eye was away from the viewfinder during the instant the film was advanced can be extremely irritating and vexing. Using a motor-drive or winder enables the photographer to concentrate on framing without having to take his eye away from the viewfinder. As soon as one shot is made, the next one can be framed, with occasional adjustment of focus or exposure.

● **Accurate shooting while following movement:** With single-frame operation, it is possible to accurately capture the desired point with accuracy not possible in continuous operation. Using automatic film advance is, of course, relying on a machine so there will be times when a split-second opportunity will be missed. For example, even in cases where a whole sequence of shots is taken while following some action, after which a good shot is to be selected, an outstanding photograph can be obtained by repeatedly making accurate shots with single-frame advance. Even if the subject should suddenly start moving faster, the 0.16 sec. winding speed of Motor Drive 1 and the 0.3 sec. winding speed of Winder 2 enable continuous operation that handles the situation.

● **Use for one-hand operation:** Basically, a camera is held with both hands, but this is not always possible. There are cases such as when holding a flash away from the camera for bounce effect, where an umbrella is held in one hand when shooting in the rain, or when the body is supported by one hand for some reason, when the camera can only be held in one hand. A motor-drive or winder is convenient on such occasions. The sidegrip type Olympus motor-drive and winder provide a secure means of holding the compact OM camera and the film is advanced automatically, making possible shots that could never be made with manual operation using one hand.

One-hand photography is limited to use with wideangle or standard lenses because of the blurring that would occur with telephoto lenses. In any event, it is important to use as fast a shutter speed as possible for one-hand shooting.

● **Remote control:** The Motor Drive 1 and Winder 2 can be used with various remote control units available on the

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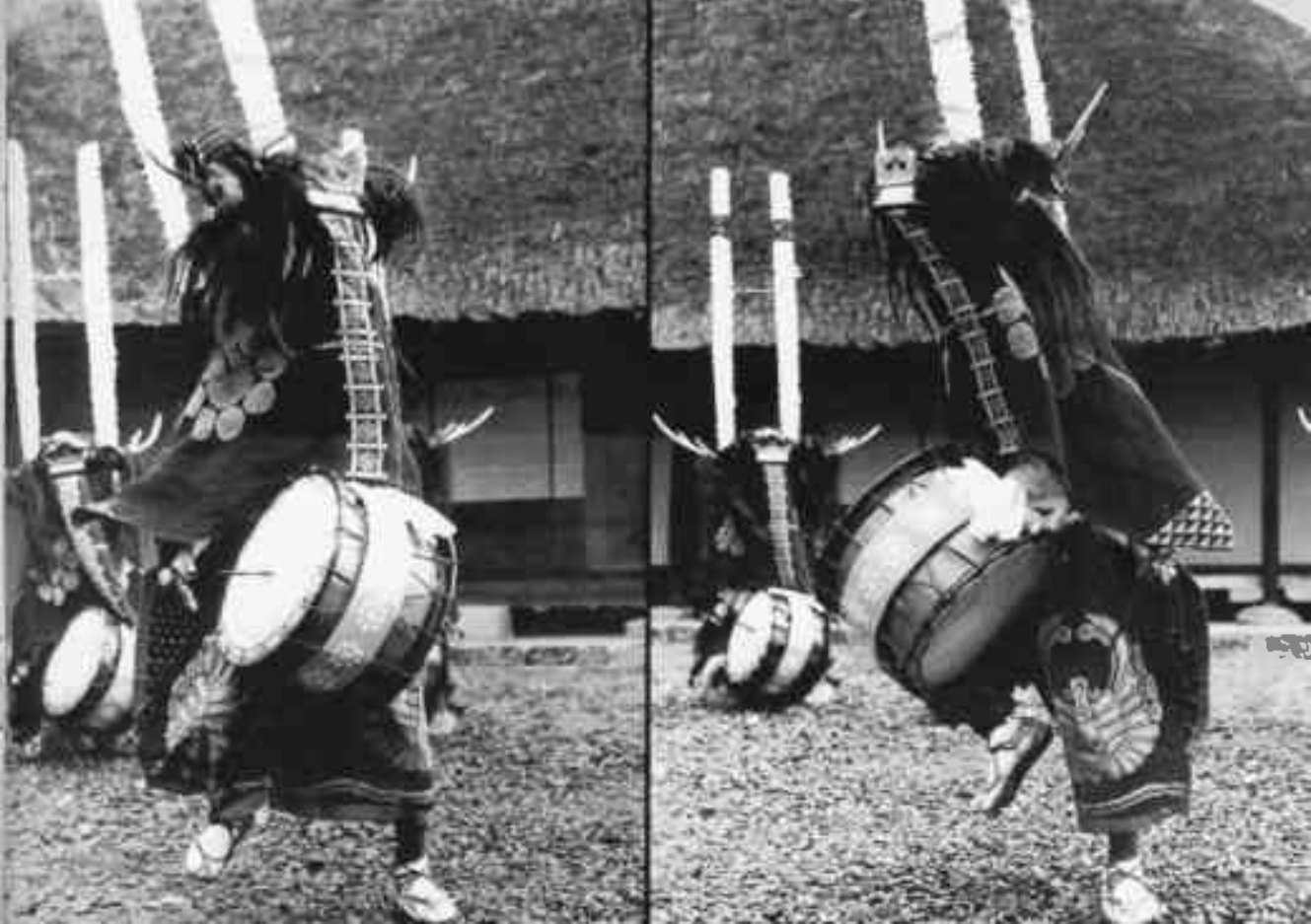

FEATURES OF OM SYSTEM MOTOR DRIVE GROUP

The OM System was designed and developed with the objective of restoring the basic functionality of the 35mm SLR camera. Originally, the idea behind the 35mm SLR camera was to provide for maneuverability and ease of operation, but this became lost as camera systems grew bigger. With Olympus it has been rediscovered.

And this restoration of functionality applies no less to the vast array of equipment which constitutes the OM System Motor Drive Group — a highly sophisticated array of motor drive equipment which was specifically tailored to the OM camera itself.

As a basis for the criteria of maneuverability, let's see actually how small and light the Olympus motor drive package can be. Either the OM-1 or OM-2 camera fitted with a 200mm telephoto lens, the high-speed Motor Drive 1 unit, and the M. 15 Ni-Cd Control Pack 1, weigh roughly 1,350g or 48 oz.

The OM System motor drive package is not only smaller and lighter, however. The OM cameras handle extremely well when used in conjunction with the motor drive, thus assuring an even higher level of maneuverability for picture taking. Winding speeds are extremely fast, compared to those of equipment made by other manufacturers. Motor Drive 1 enables speeds of up to 5 frames per second without having to raise the mirror. And Winder 2 winds the film at speeds of up to 2.5 frames per second, similar to those possible with the motor-drives of other companies. Either unit makes it possible to capture even fast-moving action by merely following the subject through the bright viewfinder.

Under very difficult picture-taking conditions, and in instances such as news photography where sudden movement is unavoidable, or when it is necessary to carry the camera around for long hours, the OM System works tirelessly to assure that your picture taking sessions go smoothly. What this adds up to is convenient and effortless hand-held motor drive photography, even with telephoto lenses. And also, more interchangeable lenses and accessories to carry in the gadget bag than is even thinkable with other systems.

There's even more. When the people at Olympus set out to re-design the 35mm camera, they did not sacrifice camera performance and reliability. In fact, this is where the OM System motor drive equipment really excels. There are three types of power sources available for this unit. There is also the Winder 2 which not only winds the film automatically but also provides high-speed capabilities of up to 2.5 frames per second. Moreover, with conventional systems, the shutter releases when you press the shutter button and doesn't start film advance until you lift your finger from the button. In other words, a breather is required before you can take the next picture. But, with the OM System, the film winding process is completed simultaneously with pressing the shutter button.

Also, conventional motor drives wind the film at predetermined intervals, irrespective of shutter speed. In the OM System, however, film wind begins immediately after the shutter is closed, no matter how long the exposure. This feature provides for utilization of shutter speeds up to 1/2 second with the OM-1, and any shutter speed with the OM-2 made possible by the versatility of the motor drive and TTL Direct "OTF" Light Measuring. Moreover, a built-in electronic control circuit automatically

(Continued on page 30.)

BASIC ASSEMBLIES OF THE VARIOUS UNITS OF THE MOTOR DRIVE GROUP

Ⓐ Winder 2
Ⓑ Motor Drive 1
Ⓒ M. 15V Ni-Cd Control Pack 1
Ⓓ M. 18V Control Grip1
Ⓔ M. 6V Power Pack 1
Ⓕ M. AC Control Box
Ⓖ Relay Cord
Ⓗ 250 Film Back 1
Ⓘ 250 Film Magazine
Ⓙ Remote Control Cord*
Ⓚ Intervalometer*
Ⓛ Timer*
Ⓜ Radio Control Units*
*available commercially

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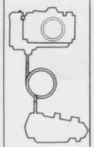

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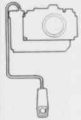

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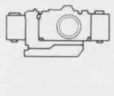

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Introductory Motor Drive Photography	◎	○	○								
Advanced Motor Drive Photography	○	◎	◎								
High-Speed Sequence Shooting		◎	◎	○							
Single-Frame Shooting	○	◎	◎	○							
Automatic Film Wind	◎	○	○	○							
Continuous Sequential Operation with bulk film								○			
Extra Small and Lightweight						○					
One-hand Operation	◎	○	○								
Photomicrography				◎		○					
Macrophotography				◎		○					
Copy and Close-up Work	○			○		◎					
Low-temperature Photography				○	○	◎					
Time-lapse Photography				◎					○	○	
Remote Control Photography				◎		◎	○				
Wireless Control											○

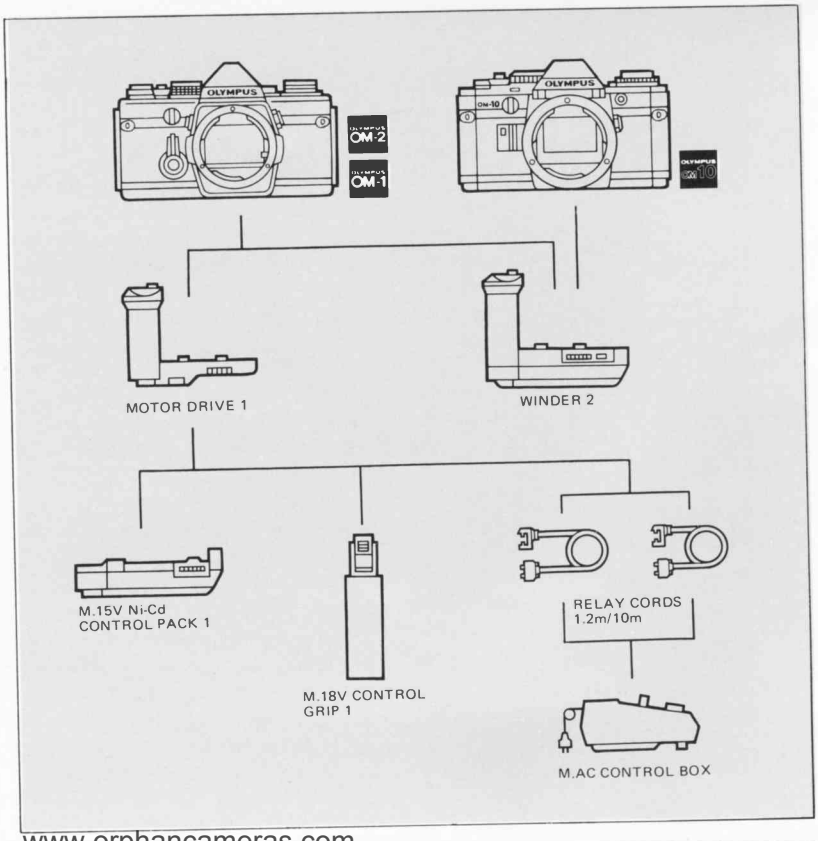
Degrees of Suitability: ◎ Optimum ○ Adequate

SELECTING THE RIGHT MOTORIZED UNIT

The Motor Drive Group includes the Motor Drive 1 and Winder 2. Selection should be made in accordance with the photographic aim and actual conditions. With rapidly moving subjects, fast shooting with manual winding is naturally insufficient. Here automatic film winding with a motor-drive is necessary. Motor Drive 1 is especially appropriate for shooting car races, restless wildlife and other quick moving subjects. Its ability to shoot at speeds of up to 5 frames per second goes beyond human capabilities to capture even the most fleeting instant in a spectacular manner. Winder 2 is convenient for recording moving people, or for capturing facial expressions. Shots are possible with the winding speed of up to 2.5 frames per second that would be impossible with manual film winding.

Of course, neither of these units can provide completely continuous coverage, but they can help you catpure that one in a million shot that may present itself at any unexpected instant, providing you with the thrill of a lifetime.

In conclusion, Motor Drive 1 is suitable for those interested in high-speed photography while Winder 2 is most appropriate for those considering one unit as standard equipment.



■Motor Drive 1

The standard motor drive unit which forms the heart of the Motor Drive Group. An extremely high-performance unit capable of high-speed sequence shooting at 5 frames per second without requiring mirror lockup, capturing phenomena of the moment which exceed the capabilities of human response. Can be switched to the "single" mode of operation winding at a high speed of 0.16 second.

Featuring an amazingly compact and lightweight design tailored perfectly to match the OM camera bodies, the Olympus motor-drive package can follow with ease swift moving subjects which larger-format cameras can't keep pace with.

Specifications

- **Camera:** OM-1 and OM-2 cameras
- **Drive speed:** Up to 5 frames per second under optimum conditions; single-frame shooting
- **Shutter speed:**

OM-1 on "SEQUENCE": 1/2 to 1/1000 sec.; on "SINGLE"; 1 to 1/1000 sec. (all speeds). OM-2 (AUTO): several tens of seconds to 1/1000 sec. (Manual): 1 to 1/1000 sec. both on "SEQUENCE" and "SINGLE".

- **Power supply:** M. 18V Control Grip 1 with M. 18V Battery Holder 1 (12 AA batteries); M. 15V Ni-Cd Control Pack 1 with built-in Ni-Cd rechargeable cells; built-in jack for external power source; M. AC Control Box
- **Maximum input voltage:** DC 18V; DC 12V – 16V (with large potential external power source, incl. Ni-Cd batt.)
- **Film:** 35mm standard cartridges; bulk film: up to 10m (33 ft.) with 250 Film Back 1 (with OM-1 and OM-2).
- **Shutter release:** Push-button type on handgrip, or release on power supply; automatic film stop at end of roll
- **Remote control provisions:** 2.5mm mini-jack
- **Size & Weight:** 116 x 82 x 66mm (4.6" x 3.2" x 2.6"), 210g (7.4 oz.).

■Winder 2

The Motor Drive Group unit which permits selection of either single frame photography or continuous sequence shooting with simple dial setting is the Winder 2. Single frame winding is at the high speed of 0.3 second. As soon as one frame is taken, the film is immediately advanced to prepare for the next shot. Shot after shot can be made without ever missing an opportunity. For continuous sequence shooting, motor-drive type speeds of up to 2.5 frames per second are possible.

The four penlight batteries used as the power source are easily loaded in an instant. Other power sources can also be used with the jack for connecting external power sources.

Of course, the compactness and light weight which are major features of the OM System are incorporated in this unit. And real 35mm mobility is assured even with the unit attached. This is a winder you'll want to use all of the time.

Specifications

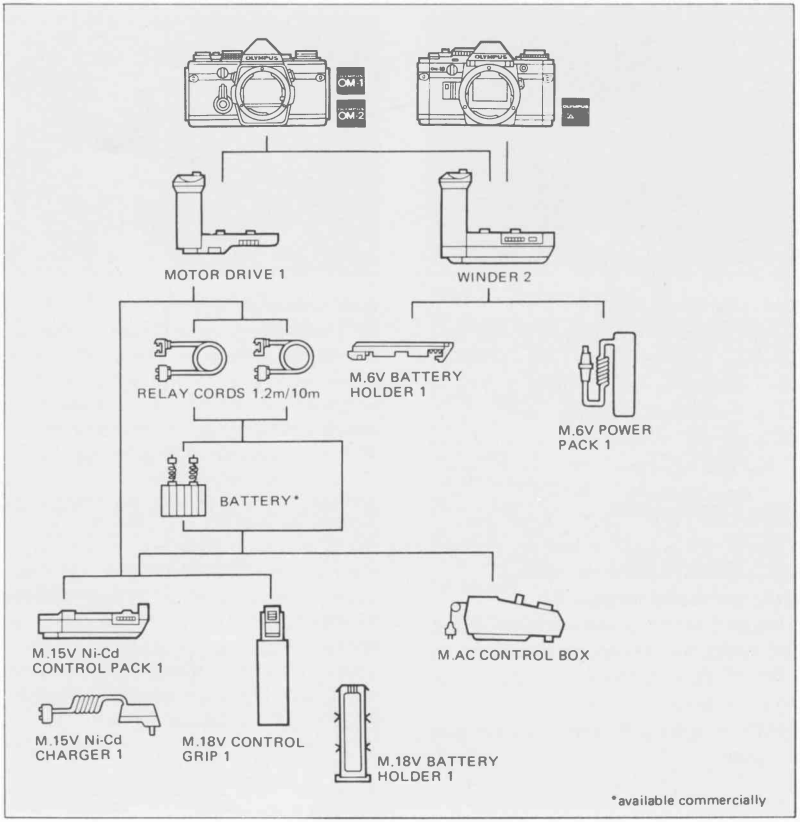
- **Camera:** OM-1, OM-2 and OM-10 cameras
- **Film advance:** Single-frame advance as well as 2.5 f.p.s. maximum sequential filming, instant film wind after exposure
- **Wind-on time:** Approx. 0.3 sec.
- **Shutter speeds:** OM-1: 1 to 1/1000 sec. OM-2 (AUTO): several tens of seconds to 1/1000 sec. (MANUAL): 1 to 1/1000 sec. OM-10 (AUTO): 2 to 1/1000 sec. (MANUAL): 1 to 1/1000 sec. (with Manual Adapter.)
- **Power supply:** Four 1.5V AA (penlight) batteries, including Ni-Cd; external power source via built-in jack.
- **Battery loading:** Snap-in magazine-type M. 6V Battery Holder 1, additional magazines available.
- **Input voltage:** DC 4 – 6V.
- **Capacity:** Approx. 50 rolls of 36-exposure film with a set of fresh alkaline batteries
- **Film:** 36mm standard cartridges; bulk film – up to 10m (33 ft.) with 250 Film Back 1 (with OM-1 and OM-2).
- **Remote control provisions:** via 2.5 mm mini-jack
- **Shutter release:** Push-button type on hand grip, automatic film stop at end of roll
- **Size & Weight:** 130 x 64 x 98mm (5" x 2.5" x 3.9"), 290g (10.2 oz.) excluding batteries.

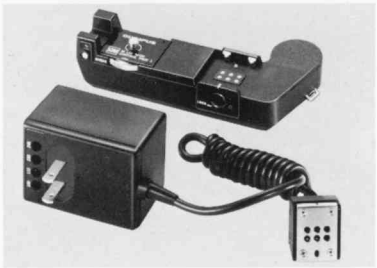
CHOOSING THE POWER UNIT

Basic among the power units for Motor Drive 1 are the compact, lightweight and highly portable flattop-type which attaches horizontally to the bottom of the motor drive, and the snap-on pistol-grip type which fits instantly into place and assures extra stability when telephoto lenses are employed. One method of selecting the power source is by battery type. The flattop unit is an economical, rechargeable unit powered by built-in Ni-Cd cells, offering practically endless reuse with a few hours of recharging. On the other hand, the pistol-grip unit is powered by 12 penlight (AA) batteries. Continuous and virtually uninterrupted power could be supplied merely by taking a spare set of batteries along with you.

Still another option is the M. AC Control Box which comes in handy for copy work and other indoor photography by transforming household current to DC for motor drive use. Winder 2 is normally used with 4 penlight or Ni-Cd batteries in the battery holder. When temperatures are low, however, the M. 6V Power Pack 1 should be used and kept warm to prevent lowering of battery performance.

Other batteries available on the market, such as 12V to 16V car batteries can also be used.





■M. 15V Ni-Cd Control Pack 1

A rechargeable flattop-type power unit utilizing built-in Ni-Cd cells attaches horizontally to Motor Drive 1. This is an ultra-compact, direct power unit housing the motor drive control circuitry and equipped with a mode selector for selecting "SINGLE," "SEQUENCE," and "OFF" functions.

There's also a built-in battery checker and independent shutter release.

■M. 15V Ni-Cd Charger 1

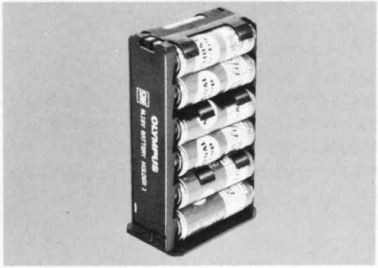
This unit serves as the exclusive charging device for recharging M. 15V Ni-Cd Control Pack 1 from ordinary household current.

Charging is possible within a short 4 to 5 hours.

■M. 18V Control Grip 1

This pistol-grip type power unit snaps instantaneously onto the Motor Drive 1 unit and uses twelve penlight (AA) batteries. It is secured with a foolproof double lock to assure stability. The rear selector dial indicates "SINGLE" and "SEQUENCE" modes as well as "OFF." It is also equipped with a built-in control unit for the motor drive; a device to automatically stop the motor drive after the last frame has been exposed, and a failsafe system preventing film advance during shutter operation.

This unit has been designed to the finest detail; in addition to the release button on the motor, the grip has a shutter-release button conveniently positioned so that it may be pressed easily and equipped with a release lock lever to prevent accidental shutter release.



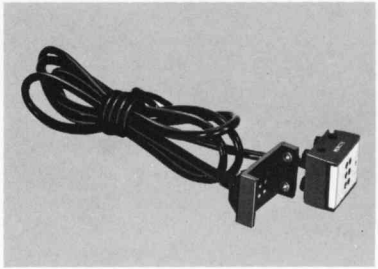
■M. 18V Battery Holder 1

This unit slips quickly into the M. 18V Control Grip 1 and is also sold as an accessory item to be loaded with a spare set of batteries to eliminate delays due to battery changes. It is especially convenient for trips or during heavy shooting sessions and takes twelve penlight (AA) manganese, alkaline or Ni-Cd batteries.

■M. AC Control Box

The M. AC Control Box transforms AC household current to DC current for powering the Motor Drive 1 unit via a relay cord. It features a mode selector for "SINGLE" and "SEQUENCE" motor drive photography, a release run switch (permitting the motor drive to run freely), and a timer permitting selection of intervals from four frames per second to one frame every 120 seconds.

Even in remote control operation where motor operation normally cannot be confirmed, this can be done using the meter. Continuous sequence or single frame operation can be selected using the convenient release button switch and release run switch.

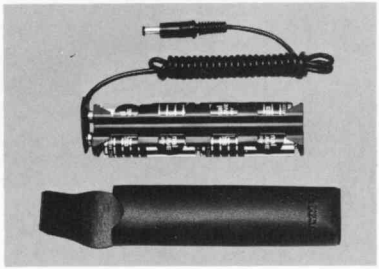


■Relay Cords 1.2m and 10m

Attaching directly to the Motor Drive 1 unit, both cords are useful when it is preferable to have the control units separate from the camera/motor drive combination. The 1.2m cord is particularly useful in low temperatures for assuring against battery failure as it permits the photographer to hold the power unit in his pocket; while the 10m cord is useful when greater distances are desired.

Remote operation is also possible in copying using the release button on the power source.

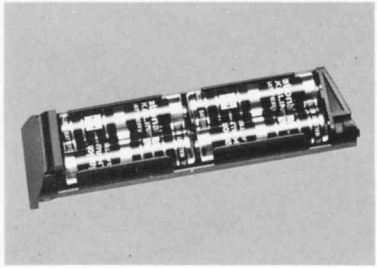
A remote terminal built into the power supply plug allows wireless and wired remote control and a DC terminal serves as a relay box when connected to a separate DC power supply.



■M. 6V Power Pack 1

A cold-resistant, external power source for the Winder 2 unit. Connects to the external power jack of the Winder by cord. When the power pack is used, current is automatically cut off from the batteries inside the winder and switched to the pack.

When kept in the photographer's pocket, it prevents battery failure and permits operation in extremely low temperatures.



■**M. 6V Battery Holder 1**
This snaps quickly into the Winder 2 unit and holds four penlight (AA) batteries. The unit is also sold as an accessory item to be used as a spare for heavy shooting sessions (batteries available commercially).

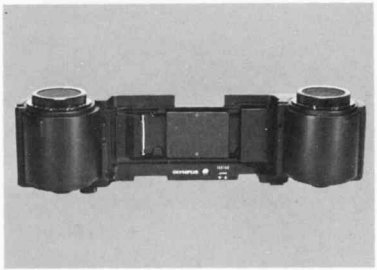
In motor drive photography several frames are shot within a second. Consequently, 20 (24) and 36-exposure film cartridges are used up in no time, and always having to change films gets to be quite bothersome. Moreover, even when not doing heavy sequence shooting, but just taking a few shots here and there in the course of a day with a motor drive, cartridge film gets used up in a hurry and would render the motor drive rather ineffective.

To avoid such inconveniences, the OM System includes a 250 Film Back 1 unit among its motor drive equipment which holds enough bulk film to give 250 exposures. To attach the 250 Film Back all one has to do is substitute it for the standard camera back.

An Eyecoupler will be necessary to insure full coverage of the viewfinder field when Eyecup 1 is used in conjunction with the 250 Film Back 1.

The Recordata Back 2 and 3 units may be used in conjunction with Motor Drive 1 or Winder 2 to imprint data and alphabetical symbol on the standard 35 mm cartridge film.

Both of these specialized film backs can be fitted to the OM-1 and OM-2 cameras with the motor drive attached.

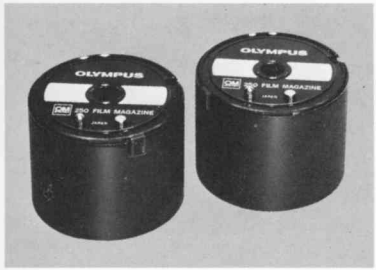


■ **250 Film Back 1** (with OM-1 & OM-2)
The 250 exposure film back is used for bulk film photography in excess of 36 frames. 30.5m bulk film is used which is wound to the necessary length into special 250 film magazines. A subtractive, manual resetting type exposure counter is built in.

Operation is automatically stopped when the counter reaches "0".

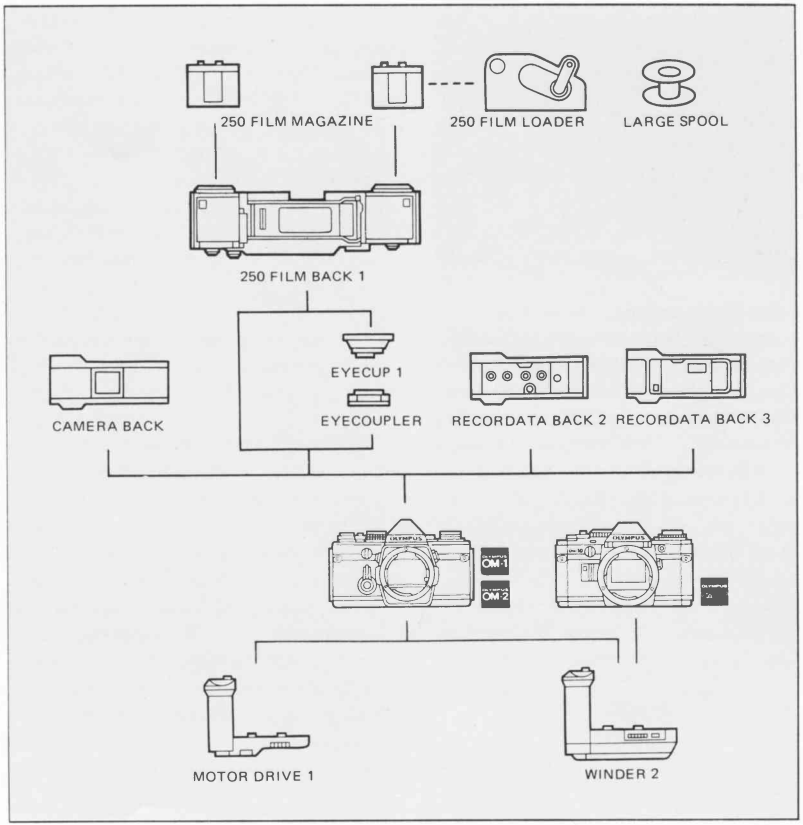
250 Film Back 1 can be attached to the camera body either before or after Motor Drive 1 or Winder 2 is attached.

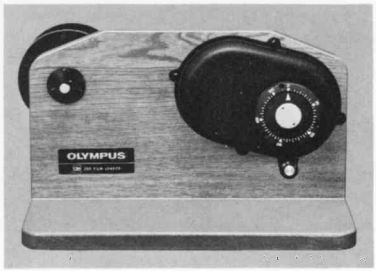
A safety device is provided to prevent the back cover being opened when the magazine port is open. This unit is compact in spite of the long film length used because winding is performed by the motor drive. The 250 Film Back 1 is designed to be used in conjunction with a pair of 250 Film Magazines and these items should be purchased together.



■ 250 Film Magazines

A companion piece of equipment for 250 Film Back 1. A blade edge on the magazine permits film to be cut to any desired length and a blank space is provided for memos. Two 250 Film Magazines, one for film supply and the other for take-up, are used in conjunction with 250 Film Back 1, and it is also convenient to use the 250 Film Loader in conjunction with this equipment when rolling film.



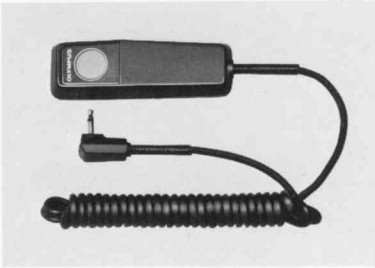


■250 Film Loader
A darkroom unit for loading the 250 Film Magazine with bulk film. After presetting the desired number of exposures to be rolled, a built-in mechanism automatically stops the loading process at the preselected film length.

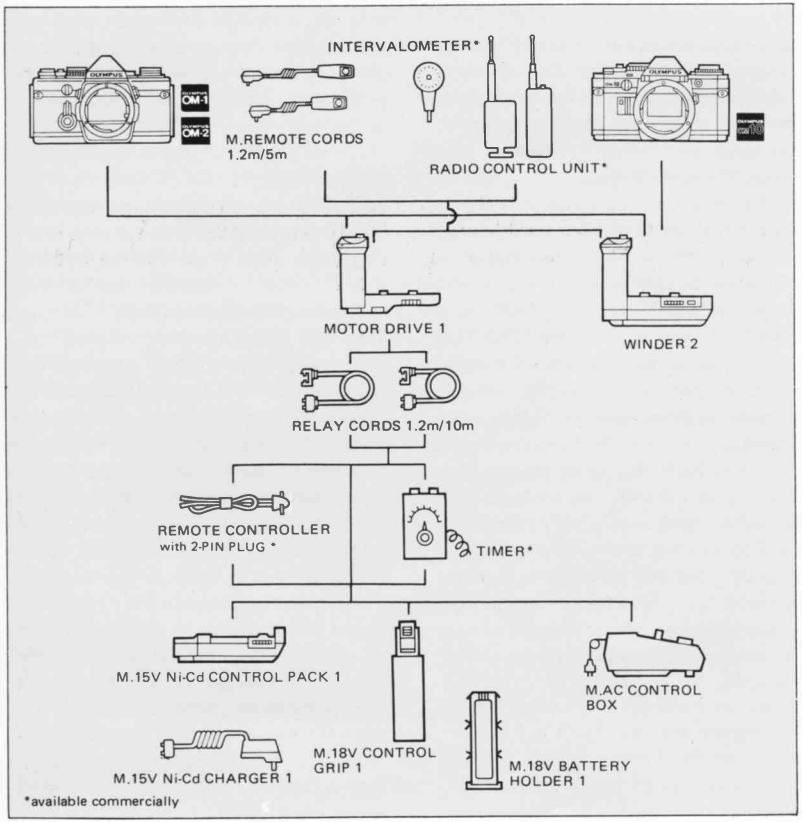
Often situations arise in photography where it is desirable to use remote control equipment. One good example is for wildlife photography, often impossible when human beings are too close to the equipment. Remote control equipment is also convenient for photography in places where it is difficult to enter, for photography over long periods of time, for candid snapshots, and for other situations requiring special measures.

Problems inherent to remote control photography have always been those of how to obtain proper exposure control and to advance the film effectively. Thanks to progress in automatic exposure control, however, and to the coming of age of the motor drive, both of these problems have been solved recently. By employing remote control in much the same manner as a self-timer, one can also effectively take remembrances of enjoyable occasions.

Both the Motor Drive 1 and Winder 2 units are equipped with a 2.5mm mini-jack by means of which various remote control devices sold commercially may be employed for remote control photography.



■M. Remote Cords 1.2m, 5m
The remote cord activates the Motor Drive 1 or Winder 2 unit equipped with a remote control jack by a push button. Convenient for vibration-free micro and macro photography or when shooting inaccessible subjects.



■Soft Case Winder

Accomodates the OM-1 or OM-2 with a 50mm lens, mounted on the Motor Drive 1/Ni-Cd Control Pack 1 combination; or the OM-1, OM-2 or OM-10 with a 50mm lens mounted on the Winder 2 unit.

■Grip Strap

Ensures one-hand holding/operation of motorized cameras (with the Motor Drive 1/flat-top type M. 15V Ni-Cd Control Pack 1 combination, or Winder 2). The buckle at each end is fastened to the strap eyelet of the camera and that of the motor drive (or winder) handgrip.

INTERRELATIONSHIP WITH OTHER GROUPS IN THE OM SYSTEM

The OM System motor drive is an extremely high-performance mechanism in itself. But to put it to effective use it is important to consider its relationship with other groups in the OM System.

More than any other, the motor drive is used most frequently with the Zuiko Lens Group consisting of an abundant array of interchangeable lenses from fisheyes to super-telephotos. Capable of following quick moving subjects with telephoto lenses, the Olympus motor drive frees the photographer from troublesome film winding and allows him to foucus without taking his eye off the viewfinder. Likewise, with the zoom lens, a more effective degree of zooming and focusing is possible. It is also an important tool to use with wide-angle lenses for creating the desired effect with snapshots by having the shutter always ready for the next shot — one of the most important characteristics of the motor drive.

Compared with conventional SLR camera systems, the OM System first of all offers a lighter and smaller camera body. But the lenses, including telephotos, are smaller also. And when the compact camera and lenses are used in conjunction with the still smaller and lighter high-performance motor drive, the real value of the OM System becomes strikingly apparent. Moreover, hand-held motor drive photography with telephoto lenses, heretofore unthinkable with conventional systems, becomes a reality.

Another important feature of attaching a motor drive to the camera body is that it frees the left hand for other functions. With flash photography, for example, the direct lighting which is produced when the flash unit is attached directly to the camera often results in unwanted shadows in the background of the picture. In order to avoid these, off-camera flash may be employed, but with the left hand free to hold the electronic flash unit this becomes much easier than ever before, allowing for greater lighting possibilities in flash photography. Moreover, sequential photography can be performed within the capacity of the flash unit being employed.

Use of the motor drive in conjunction with equipment from both the Macrophoto and Photomicro Groups has enabled expansion of the photographical possibilities of both groups. Whether shooting close-ups of flowers or small animals, copying documents, observing cell divisions of microscopic life — anything from recording daily happenings to the scientific and industrial fields — the effectiveness of the motor drive is immeasurable.

With close-up and macrophotography, picture quality often drops due to blurring as a result of shutter and mirror shock which increases in correspondence with the degree of magnification. This can be minimized, however, by employing the Copy Stand, Macrophoto Stand VST-1 or other equipment from the Macrophoto Group.

Often when such equipment is used in conjunction with motor drives, however, access to the shutter release button becomes difficult. The M. AC Control Box used in conjunction with relay cords eliminates this difficulty.

The many, many uses of the units of the Motor Drive Group of the OM System in conjunction with other units and groups of the system permit even a greater range of photographic possibilities with the motor drive than originally imagined. The OM System has not overlook a detail in giving you a command of the world of photography.

(Continued from page 11.)
proves rewarding to utilize their night feeding habits by spreading feed to lure them to your set-up. With the OM System, relay cords are available for off-camera control, and wireless remote control equipment sold on the market can also be used. One of my favorite methods is to wire the site so that the motor driven cameras will operate when the animals trip a cord I have laid. With this method, I have even succeeded in photographing an *Iriomote* wildcat, a near extinct species.

I certainly hope that everyone interested in animal photography will make use of the many applications of the motor drive and go out and challenge the many facets of this fascinating field of photography.

(Mitsuaki Iwago)

(Continued from page 13.)
market. For example, a motor-drive and remote control equipped OM camera can be mounted on a monopod and held high overhead for shooting in crowds, etc. A remote control unit can also be combined with single-frame film advance for close-up and other types of photography where camera shake cannot be allowed.

● **Motor Drive operation prevents camera shake,** making photography even more enjoyable, but the camera should always be held securely in all cases.

(Masaharu Sato)

(Continued from page 17.)
stops the film advance as soon as the end of the film is reached. Such high perfomance cannot be found with other cameras and has been backed up by severe motor-life testing (up to 200,000 releases), and cold-weather tests in excess of −10°C (14°F).

The Olympus goal of restoring functionality to the 35mm SLR camera has been realized in the perfection of a system which is highly adaptable to a wide variety of photographical needs.

The Motor Drive Group centers around the five frame per second high-performance Motor Drive 1 unit. Starting with the 250 Film Back 1 unit, there are numerous other accessories, including provisions for macrophoto and photomicro and a vast variety of other photographical fields.