

Leica R7 35mm SLR



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LEICA R7 35mm single lens reflex.

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Leica's R7 was first shown at Photokina in 1992. It replaced the R5 and is now the company's electronic showpiece, sitting alongside the all mechanical R6.2 (PP Jan 93). Normally, in a review of this nature, the critical reader might aim straight for the summation. Don't bother, it's here in the first few paragraphs.

The R7 is a great piece of work. In the diminishing world of sophisticated manual focus 35mm slr equipment, Leica have the opposition beaten flat. The only other model likely to come close from the point of view of build quality is the Contax RTS III, but since I was unable to obtain a sample of that marque, any real comparison must wait. What is clear is that Leica's R&D department have at last taken some cognisance of what professionals have asked for in the way of improvements to the electronic multi-mode exposure system and in this respect the special programme customised by Motorola in the main CPU of the R7 performs these functions superbly, to the extent of giving the user every function contained in a similarly specified top-of-the-line auto focus camera, but without a/f, built in motor drive, auto rewind and high speed flash synch.

In 'T' mode for example, the user is required only to point the camera, focus, compose and shoot. Used in conjunction with the extremely robust 'R' type motor drive and Leica's expanding range of true internal focus objectives, the R7 becomes the basis for a rapid reaction machine of exceptional durability.

How is this achieved?

Leica philosophy has always centered around its claim to manufacture artifacts which are 'built to a standard' rather than to a price. Consequently, their products have never been cheap but even 30 year old well used Leica equipment invariably exhibits the smooth and exact functioning which is the result of sophisticated design and engineering to very narrow tolerances.

The manufacturer maintains (often in the face of stiff dissent) that metal is a more durable material for building cameras than the most exotic types of polycarbonates used by many other manufacturers. Thus, like its predecessors, the R7 is built entirely around a solid die cast zinc CNC milled chassis to which are added a 1mm thick silver or black chromed zinc top-plate and 0.8mm thick chromed brass bottom plate.

To accommodate the additional electronics and enlarged shutter housing featured in this model, the overall height of the camera has been increased several millimeters by fitting a deeper walled bottom plate to the camera. Not only does this give greater protection to the chassis base from severe knocks, it also enhances the ergonomic feel of the camera, giving a greater sense of security to grip. It also meant that a special handgrip had to be designed for the motor drive to accommodate the difference in height between this and other R models.

The removable hinged back has the same moulded thumb rest featured on earlier models. This is made of a type of polycarbonate or 'microlite'. The same material is used for the new shape mechanical wind on lever and the electro engraved shutter speed dial. At first glance, the use of plastic derivatives on a camera of this calibre might seem at odds with the previously stated manufacturer policy.

However, Leica have been quick to point out in the past that these materials are only used in conjunction with metal based parts. For example, the core of the shutter speed dial is turned from a solid lump of hardened brass over which the raised and coarse milled exterior cover is then fitted. The same principle applies to the wind-on lever. The central stainless steel drive shaft is riveted to a flat metal plate to which the 'microlite' moulded cover is attached.

Several other polymer based components are used. The ISO setting ring, a moulding at the base of the lens mount throat, depth-of-field preview lever cover and mode setting switch. All of these components are well made and of a thickness unlikely to shatter easily. Use of plastics for these and other parts of the camera enables small changes in design to be effected quickly. It also means that the relatively minor costs involved in remoulding does not immediately have to be passed on to the customer, so there is some additional goodwill accrued to the maker.

Without wishing to blow too loud a horn, it must be said that the quality of finish on the R7 is outstanding. Past products from Ernst Leitz of Wetzlar always exhibited an amazingly high standard of workmanship. The company at Solms seems to have found ways of exceeding even that level. Aspects of the camera, such as the way set screw heads are countersunk into the plate, finish of the motor drive shaft barrel and inner faces of the lens mounting ring can only be properly appreciated by examination under a magnifying glass.

In persuing the immortal statement by the head of a famous Japanese Co that 'any hardware needs software', Leica turned to Motorola for the MOS co-processor which runs the R7. The system uses several other intermediary chips which enable the time proven Leica method of metering to be integrated to the main processor without the loss of familiar function switching used on all earlier models of the R type cameras.

The R7 features auto DX'ing of film speeds. This feature can be manually overridden by setting the required EI value on a ring at the base of the rewind lever. There is also provision on the same ring to make +/- exposure compensation. In DX mode, the film speed is indicated within the viewfinder. In the event of a non DX coded film being inserted and no speed being set manually, the main CPU assumes the camera is in manual mode no matter the mode actually set.

Two types of metering are available. One is 'selective', measuring some 4.5% of the total field area and outlined in one of the brightest viewfinders available by the central 7mm dia. microprism collar. The second provides an 'integrated' full field measurement which is centre-weighted. Selection is made by moving a collar operated switch situated beneath the shutter speed dial. A small window between the dial and the pentaprism housing displays a code letter which identifies both the type of metering and function mode set.

Five separate modes are available, viz; 'm' Manual shutter speed and aperture setting using 'selective' metering; 'A' Aperture priority with 'selective' metering plus optional exposure memory lock; 'A' Automatic aperture priority with full-field integrated metering; 'P' Variable automatic programme using full-field integrated metering and 'T', a shutter priority programme using full-field integral metering.

Apart from the 'Manual' setting which allows the user to select any

three

shutter speed from 4 secs to 1/2000th sec plus 'B' and the mechanical back-up speed of 1/100th second, one of the most useful modes is the 'T' setting. This is designed to give the user full automatic shutter speed control using the full range stated above plus the useful intermediary 1/2 stop increments. Thus, if 1/500th sec is not quite fast enough to stop some movement, but 1/1000th sec is too fast, the in between setting of 1/750th sec can be selected. The programme works in conjunction with all fully automatic diaphragm objectives which should be stopped down to their minimum aperture when mounted.

Optimum aperture values are selected automatically by the programme depending on the shutter speed set. When an exposure is made, the diaphragm is automatically opened to the correct f/stop value. Older Leitz reflex lenses which do not have the third cam can still be mounted but must be used in the stop-down meter mode using the 'm' programme. However, many of these older lenses can be modified at reasonable cost by Leica U.K. They will then work accurately in all the programme modes.

The 'T' mode is very swift in operation, the viewfinder clearly displaying the shutter speed set by means of bright red LED's across the bottom of the frame, while a scale at the right hand side indicates the aperture selected. When a shutter speed is set which is too fast or too slow for the light conditions, the maximum or minimum 'f' stop of the lens in use blinks rapidly as a warning of incorrect settings. However, when these warnings were ignored, film was found to be correctly exposed. When used in the aperture priority mode with selective metering, exposures can be stored indefinitely by depressing the shutter button to the release point. This is a useful feature for more measured work. Near spot-metered readings of certain subject areas not within the central measuring field of the final composition can easily be taken and stored.

In 'm' mode, the shutter speed set is displayed across the bottom of the frame, while at the right, a sliding scale indicating +/- over/under exposure from the mean is displayed in half stop increments. This is also surprisingly quick in use, perhaps because of the orange coloured display used. When the optimum exposure for a scene is set, the central round dot of this right hand scale appears brighter than the under/over exposure sections. It is not so bright as to be a distraction, but the user is nonetheless aware of its presence, or not, as the case may be.

The other major improvement of the R7 over its predecessor is the advance made in electronic programming using TTL metering in conjunction with electronic flash. Since Leica themselves do not make an electronic flash system dedicated to the camera, the user must employ one of the marques using the SCA 300 or 500 system. Metz, Cullman and Regula are three brands which accept the interchangeable adaptors allowing them to be used in dedicated mode with a number of different camera marques.

With the R7, a flash ready-light and correct exposure verification are displayed in the viewfinder. A silicon photo diode located in the base of the mirror box measures the light emitted by the flash when it is used as a main light source; the main camera CPU operates a light cut-off system when sufficient light has reached the film. When the flash is used for fill-in, as in synchro sunlight situations, best results are achieved with the camera exposure mode set to 'T'. This setting permits the correct mix of ambient light and flash to balance exposure. In 'P' mode, whenever the flash is mounted in the camera's hot-shoe, camera electronics switch the shutter speed automatically to 1/100th second as soon as the flash is ready for firing. This is the fastest shutter speed available

for use with electronic flash. In daylight fill-in situations, the system works well with film speeds of 100 ISO or less. The use of faster films simply has the effect of voiding the flash because the metering system overrides to the main light source in both modes, which in this case, would be daylight.

If I have reservations about the R7 it is a niggling suspicion that the fastest flash synchronisation speed is simply not fast enough for many situations which are likely to arise where fill-in flash could be a real benefit. It's a problem which all the R types suffer from. According to Leica at Solms, the main reason preventing use of a faster shutter speed has to do with the length of travel of the shutter curtains, a factor which governs the speed at which the slit travels over the film frame, which in turn governs the optimum synchronisation speed.

The company claims that the camera would have to be taller in order for more space to be created for a faster shutter run. A similar problem was encountered by Olympus when designing the OM4Ti. That company dodged around the problem of huge additional cost in designing and machining a completely new body by approaching the problem from another angle. Increasing the duration of the customised electronic flash so that it could be used at all shutter speeds proved a very effective solution.

In the dim and distant future, Leica may make small changes to this model. I understand that later editions of the R7 feature a larger film rewind lever. It's also possible that an electronic rangefinder device may be incorporated. This is likely to feature an LED viewfinder indicator which simply blinks when the subject is in focus. A similar system is already in use in A/F cameras and has recently featured in the new Contax RX. These changes, if they happen, are unlikely to warrant a new model, but I understand from Leica's R&D that auto focus has not been entirely ruled out. Neither apparently, has the possibility of a manual camera featuring built in motor drive.

I note that in my review of the R6.2 last year, I concluded that from a professional users viewpoint, the R7 did not quite have the same strengths. This was an unfair comparison as both models are very different in concept. One is entirely mechanical incorporating limited electronics in the metering facility. The R7 is directly opposed, its entire reason for being centered around the Motorola chip. If the potential user can accept the implications of total reliability on battery power and complex electronics then the R7 is every bit the equal of the R6.2. Naturally, the two body user will have one of each.

Front cover picture: This R7 body was frozen in a domestic freezer compartment for 48 hours, removed and turned on. It worked as it should. The photo was taken within minutes of the camera body being extracted from the freezer. Copyright photo by Jonathan Eastland.

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