

Spiratone

**300mm F5.6
PLURA-COAT®
MIRROR MINITEL®-S**

USING THE SPIRATONE

300MM F/5.6 MINITEL®-S

The Spiratone MINITEL-S utilizes a catadioptric lens system which folds the optical path of its 300mm focal length into a barrel length of only 2 7/8". The mirror design eliminates chromatic aberrations and produces a well-corrected, high contrast image over the entire negative or slide. Its compact size and extremely light weight make the MINITEL ideal for the sports or nature photographer, particularly when hand-held shooting is necessary. Unlike other lenses of such a long focal length, the MINITEL is no more difficult to hand-hold than the average 90mm lens.

MOUNTING

The Spiratone MINITEL-S utilizes the popular standard 'T' system of camera adapters, allowing the lens to be fitted to virtually every 35mm interchangeable lens focal plane SLR camera.

Screw the appropriate 'T' adapter onto the rear of the MINITEL (no tools are required) and then mount the lens to your camera body the same way you would your normal lens. If the focus index mark is not on top, reorient the adapter by loosening with a small screwdriver the three setscrews in the T adapter and rotating the lens within the mount until it is in the desired position. Then tighten the setscrews. Do not use the lens until the setscrews are retightened.

Note: The lens may already have a 'T' adapter attached when you receive it. To remove the 'T' adapter (in order to use 'T' mount accessories), simply unscrew it counterclockwise, by hand, using no tools.

FOCUS

Turn the large diamond-patterned rubber grip until the image in the viewfinder is sharp. Since split-image and microprism focusing aids tend to 'black out' with long focal length lenses, focusing is best done on the groundglass portion of your focusing screen.

For some cameras, substitute focusing screens giving a direct aerial image are available; these are particularly well suited for use with long focal length lenses. Since extreme temperatures may cause a slight focus shift in mirror lenses, the MINITEL is designed to ordinarily focus slightly past the infinity mark position. Proper focus on objects at infinity is obtained by visually focusing on the object you want to be in focus and not relying on the infinity mark of the lens.

The MINITEL focuses down to approximately 2.3M (about 7½ ft) without any auxiliary close-up devices; the near focusing range can be further extended by the use of extension tubes such as the Spiratone 'T' extension tube set which fits between the lens and the 'T' adapter.

Because of its catadioptric design, the MINITEL requires no focus compensation when using infrared film.

LENS SPEED/EXPOSURE

The Spiratone MINITEL-S has an effective fixed aperture of 5.6. Since catadioptric lens systems cannot utilize a variable diaphragm, exposure is controlled

by varying the camera's shutter speed and by the use of filters, particularly neutral density filters. For example, a 4X neutral density filter reduces the MINITEL's effective aperture to f/11.

Metering with your camera's meter is done via the stop-down method. Consult your camera's instruction book on how to meter with pre-set or manual lenses. Cameras with aperture-preferred auto systems are particularly well suited for use with the MINITEL and enable you to make accurate exposures automatically and without adjustments or calculations of any kind.

FILTERS

The front of the MINITEL is threaded to accept standard 72mm filters, which are available in a wide range of colors and special effect types.

The rear of the MINITEL is designed to accept a small (30.5mm) rear mounting filter. 30.5mm filters are available in yellow, red, skylight, ND 2X and ND 4X. To attach one of the filters to the lens, first unscrew the 'T' adapter by hand - do not use any tools. Screw the filter into the rear 'T' threads of the lens as far as possible. Replace the 'T' adapter after the filter is installed by simply screwing it onto the rear of the lens by hand.

LENS SHADE

The lens shade supplied with the MINITEL-S provides excellent protection from flare and unwanted light. When it is not in use, it is stored by mounting onto the MINITEL in reverse, thus not increasing the space the lens requires for carrying.

VIEWING SCREEN

On some SLR cameras, long focal length lenses produce an apparent image cutoff in the viewfinder, generally along the upper edge of the viewing screen. This cutoff is caused by the camera's mirror, which is not large enough to capture all the light rays from a 'long' lens. This is a limitation of the camera's viewing system only and will not affect the image on the negative or slide at all.

CASES FOR THE MINTEL-S

A choice of two cases is provided for the lens. The deluxe carrying case which accommodates the lens in a horizontal fashion and has a compartment for two filters on one side; and the SLR Super Case which makes possible 'everready' use of the camera with the lens attached. It is fully described in the Spiratone Catalog.

SPECIAL CONSIDERATIONS IN USE

The MINITEL-S, like all other mirror lenses, performs in certain situations slightly differently than a conventionally designed lens of the same focal length. For example, mirror lenses reproduce an out-of-focus light in a characteristic 'doughnut' shape instead of a colored spherical blur. As with any new accessory, a little practice will help you learn to fully utilize the MINITEL's capabilities and get used to its operation and special characteristics.

All lenses exhibit some loss of light towards the edges; generally, catadioptric

lenses produce a stronger fall-off than conventional-design lenses. The MINITEL-S provides the most even illumination possible with a mirror lens and on correctly exposed photographs, even when these are of subjects which tend to increase the impression of fall-off, the MINITEL's performance is outstanding. It should be noted, however, that under-exposure (such as may result when making an 'automatic' exposure of a flying bird against a bright sky) will pronounce fall-off, while correct exposure minimizes or virtually eliminates it.

For maximum resolution and the most critical composition, a sturdy tripod should be used whenever hand-holding is not a necessity.

Because of the MINITEL's long focal length, depth-of-field is relatively shallow and focusing must be done with great care. A Critical Eyepiece Focuser is a useful aid in focusing with a long focal length lens.

USING LENS EXTENDERS

While conventional rear converters (extenders) can be used with the MINITEL, the Spiratone 2X 'T' converter is especially designed for 'T' mount lenses like the Minitel-S. It fits between the 'T' adapter and the lens body, a location which minimizes any strain on the component parts.

To use the 'T' converter, simply unscrew the 'T' adapter (see 'Mounting'), screw the 'T' converter onto lens' rear threads, screw the 'T' adapter onto the rear of 'T' converter and you now have a 600mm f/11 telephoto. No tools are required for this purpose.

Only if the focus index mark of the lens is not on top with the converter in position reorient the converter by loosening with a small screwdriver the three small setscrews around either the front or back of the converter and rotating the lens until it is in the desired position. Then retighten the setscrews. Do not use the lens until the setscrews are retightened.

Note: The 'T' Converter does not fit directly onto a camera body.

USING THE SPIRATONE T-SCOPE TELESCOPE ATTACHMENT™

Remove the 'T' adapter (see 'Mounting') and then screw the Telescope Attachment onto the lens' rear threads.

CARE AND HANDLING

Treat this lens as you would any fine piece of precision optics. Protect it from liquids, heavy vibrations, shock, dirt and dust. The use of a lenscap (such as a Spiratone Opticap™, which can be left on during exposures) or a filter on the front of the lens will help protect the front element. Dust should be removed from the glass surfaces with either 'canned air' or a lens brush; dirt can be removed by using Spiratone or similar lens tissue moistened with lens cleaning fluid. DO NOT use any type of silicon-treated cloths on the glass surfaces. When not in use, the MINITEL-S should be stored in its protective case.

For further information on the accessories referred to in these instructions, consult your Spiratone catalog.