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TECH TIP: Getting real close

Most video camera lenses have a macro setting that lets you shoot objects almost touching the front element of the lens. The catch is that the "macro setting" is usually at the wide angle end and once set to that, the lens can no longer be zoomed.

To overcome this limitation: stay in the normal zoom range of your camcorder and fit supplementary close-up lenses to the front of it. These are often called *diopters*, after the name of the unit in which lens strength is measured.

They are single element lenses that are attached to the front of your main lens just like filters. They are numbered according to their optimal focus; +1 diopter focuses at 1 meter, +2 at 0.5 meters and +4 at 0.25 meters. Once fitted you can use the zoom through these lenses in the normal way. You will find that the *depth of field* will be very shallow and lighting something that close to the front glass can be a challenge.

They tend to be listed under *Filters* at the major equipment suppliers. Such close-up lenses usually come in sets of three, +1, +2 and +4. They can be used in combination to give even closer focusing, e.g. use +1 and +2 together to give +3, focusing at 0.3 meters. As for price - in mid December 2009 www.amazon.com had a Hoya 55mm Close-Up Filter Set (+1 +2 +4 Diopters) for \$34.89.