

## Teleconverters

Are you confused because you know that putting a teleconverter between your lens and the camera will lose light? In fact a 2x teleconverter will lose 2 stops of light and a 1.4x teleconverter will lose 1 stop of light. Yet when you put the teleconverter on your lens, for a given subject, the aperture and shutter speed are identical to the exposure readings before you put the converter on.

The explanation is very simple. The newer cameras are very smart and they know if there is a 1.4x or 2x teleconverter on the lens. What the camera does is automatically adjust the physical lens aperture to compensate for the teleconverter without telling you, unless you look hard. Let us assume that you have an f4 lens and the exposure reading for the subject without the teleconverter is a shutter speed of 250 and an aperture of f8. Now when you place a 2x teleconverter on the lens the exposure reading is the same, 250 @ f8, and that is what the camera still says. What has happened is that the camera has opened the lens to a physical f4 aperture, two f stops, while still telling you the aperture is f8 and has automatically compensated for the two stop light loss. If you notice when the 2x teleconverter is on the lens the camera will no longer allow you to set the f stop to f4. The lowest you can set the f stop is f8 and that allows the camera to automatically compensate for the light loss.

A similar event occurs when you use a 1.4x teleconverter. Assuming the above example the camera will set the lens to use the f5.6 aperture while it tells you in the display that the aperture is f8. Again with an f4 lens and a 1.4x teleconverter on the lens the lowest aperture you can set on the camera is f5.6.

The knowledge of this allowed me to win a bet while I was in New Zealand. I bet this other photographer that I had purchased a very special teleconverter that did not lose light. I showed him the same camera exposure settings with and without a teleconverter and he was befuddled.