



HOW TO USE TELECONVERTERS

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Probably nowhere else in photography is there more debate and speculation than with teleconverters (also known as tele extenders). Amateurs and pros alike praise them and disown them. They have been labeled as both a blessing and a curse; usually at the same time. Herein lies my piece of the controversial pie.

It is true that a poorly made teleconverter will take your photography to a new low. However, if you buy a top quality converter it can be one of the most useful accessories you own.

Essentially teleconverters "convert" your current lens size by a given factor. That factor depends on the magnification of the converter you buy. Most teleconverter factors range from 1.4x to 3x. For example, if you have a 200mm f/4 telephoto lens and attach a 1.4x teleconverter to it, it becomes a lens with a focal length of 280mm ($200 \times 1.4 = 280$).

There are three key drawbacks to teleconverters:

1. You lose lens speed. Using a 1.4x teleconverter will cost you one stop. In the example above, the 200mm f/4 lens becomes a 280mm f/5.6 lens by attaching a 1.4x teleconverter. With a 2x teleconverter you lose two stops of lens speed, and with a 3x you'll lose 4 stops of lens speed. This means it may be necessary to use faster films with teleconverters.
2. Secondly, because of the loss of lens speed, your viewfinder will be dimmer, possibly making it harder to see your subject.

3. Lastly, and most importantly, image quality suffers to some degree. The degree of lost quality can vary from slight degradation of sharpness and contrast to considerable image disruption, depending on the quality of the teleconverter and how well it matches the lens.

To achieve top quality with a teleconverter you need to match the lens you have with the teleconverter. Ideally you should buy a teleconverter and lens made by the same manufacturer. If this is not possible, try matching the teleconverter to a specific range of lenses. For example, many teleconverters are made to fit lenses that are 300mm and up. If that's not possible, then you must simply buy the best "name-brand" teleconverter you can afford. Try to avoid the temptation to buy a 3x teleconverter. The image quality is often poor, even in the best of situations, and the four stops of light loss make photography difficult. Avoid non-name brand teleconverters or those with less than five elements.

Remember that teleconverters were originally designed for manual focus cameras and often will not work on auto-focus systems. Teleconverters also work better on single lenses rather than zoom lenses. When using a teleconverter try to close the aperture down two or three stops. This is usually where you will get the best quality.

Rarely will a lens with a teleconverter give you better image quality than a lens of equal focal length by itself. However when you need long lenses and either money or weight is a factor, these small lightweight "miracles of modern technology" are a sound investment.

My rule of thumb is that if I consistently find that I need to use a particular lens with a teleconverter then it's time to buy the longer lens. Using the best quality lens with the best teleconverter you'll probably experience around a 10% image degradation and that's something to bear in mind as a final thought on teleconverters.