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INTERMEDIATE

Using Teleconverters

Extend your photographic reach with these lens accessories

Featuring **MARK ALBERHASKY & CAROL FREEMAN**

What exactly are teleconverters and can I use one with my camera and lens(es)?

A teleconverter allows you to increase the apparent focal length of a lens, giving you a greater telephoto effect than a lens alone. A teleconverter is basically a magnifying lens that is placed between the camera body and lens. Teleconverters are favorite accessories of nature and wildlife photographers, because they allow them to extend the photographic reach beyond what might be safe when on safari or in an unfamiliar location. In general, wide-angle prime and zoom lenses are not compatible with teleconverters; which makes sense, since you're using a teleconverter to increase your reach—and you'd likely start out with a longer focal length lens to begin with. Using a teleconverter is an affordable option when you want to increase your photographic reach without having to purchase new super-telephoto lenses.

Nikon currently offers teleconverters in 1.4x, 1.7x and 2x magnifications. These AF-S teleconverters utilize the Nikon f/mount, and are compatible with all Nikon film-based SLRs and DSLRs (FX and DX formats), as well as the Nikon 1 cameras when using the FT-1 F Mount Adapter.



(l. to r.) Nikon [AF-S Teleconverter TC-20EIII](#) (2x magnification), Nikon [AF-S Teleconverter TC-14EII](#) (1.4x magnification), Nikon [AF-S Teleconverter TC-17EII](#) (1.7x magnification).

Should I use a teleconverter?

There are benefits and drawbacks to using a teleconverter, so you need to decide if using one is right for the type of photography you're planning to do.

Benefits include their cost effectiveness and small physical size; drawbacks include a loss of light or lens speed and possible decrease in sharpness. A 300mm lens and 2x teleconverter may not be as sharp as a dedicated 600mm lens. Also, not every NIKKOR lens is compatible with every teleconverter. Here is a list of [teleconverter/NIKKOR lens compatibility](#).

Teleconverters are convenient when you want to increase the apparent telephoto reach of specific NIKKOR lenses, especially when compared to the physical size of some of the longer super-telephoto NIKKORs. Also, when you use a teleconverter, you don't lose the close focusing distance of the lens, which is an added benefit.

Because teleconverter compatibility is dependent upon lens use, the lenses that will work with a teleconverter are all FX lenses (those that are designed for use with the larger FX format image sensor or film SLR cameras).

AF NIKKOR lenses (those which do not have a built-in focus motor) are not compatible with the current AF-S teleconverters but may work with older manual models. (AF-S lenses are those with a built-in focus motor.) Some of the newer NIKKOR lenses can also be used with older manual focus teleconverters with limited compatibility. Functional limitations include having to manually focus the lens, shoot in manual exposure mode only, and require an accessory exposure meter due to the camera's built-in exposure meter being rendered inactive. Vignetting or other visible image defects may also occur.

Must I use an f/2.8 lens or faster with a teleconverter?

The answer to that depends upon which Nikon DSLR body you're shooting with. Up until the introduction of the D4, if you used a teleconverter with a NIKKOR lens, you'd lose autofocus capabilities at apertures smaller than f/5.6, be required to use a slow shutter speed or increase the ISO since a fast aperture wasn't possible. Due to these limitations, wildlife and sports photographers wouldn't be able to utilize teleconverters in many instances that required fast shutter speeds.

Newer Nikon cameras, including the [D4/D4S](#), [D5](#), [Df](#), [D800/D800E](#), [D810](#), [D850](#), [D750](#), [D600/D610](#), [D500](#), [D7100](#), [D7200](#) and [D7500](#) allow you to use slower lenses with the teleconverters with the ability to utilize autofocus functionality when stopped down to f/8.

Amount of light lost when using teleconverters

- When using a 1.4x teleconverter, you lose 1 stop of light, so for example, when using an f/2.8 lens, the widest aperture you can use the lens at is f/4;
- A 1.7x teleconverter will lose 1½ stops of light, so with an f/2.8 NIKKOR lens, you will end up with an effective wide aperture of f/4.5;
- A 2x teleconverter loses 2 stops of light, so an f/2.8 lens drops down to a wide aperture of f/5.6.



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D3, AF-S VR Zoom-NIKKOR 200-400mm
f/4G IF-ED, TC-14E II teleconverter (total
focal length: 490mm), ISO 1250, f/5.6, 1/750
sec., manual exposure.



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D300s, AF-S NIKKOR 300mm f/4D IF-ED, TC-20E III teleconverter (total focal length: 600mm), ISO 800, 1/1250 sec., f/9, aperture priority, manual focus.

To see more of Mark's photography, visit his website at www.imagemag.com. To see more of Carol's photography, visit her website at www.carolfreemanphotography.com.

Additional notes:

1. *The distinction of II in the name of Nikon teleconverters means that the newer versions use lighter metals in their construction. There is no difference between the the original versions and the newer ones in terms of functionality or optical performance.*
2. *The 80-200mm f/2.8D ED AF supports the TC-201 and the TC-14A (occasional vignetting) & TC-14B (AF not possible).*
3. *The 70-200mm f/2.8G ED-IF AF-S VR supports the TC-14EII, TC-17E II, TC-20EII.*
4. *The AF-S VR Zoom-NIKKOR 200-400mm f/4G IF-ED will only autofocus with the TC-14E II.*
5. *The following lenses, although not a complete list, are not compatible with autofocus teleconverters: AF-S NIKKOR 28-300mm f/3.5-5.6G ED VR, any 18-55mm lens, any 18-105mm lens, any 18-135mm lens, any 18-200mm lens, any 24-120mm lens, any 55-200mm lens, any 70-300mm lens, and any 80-400mm lens*

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