

## Depth of Field & Field of View

The following table will help you pick the proper close-up lens combination, based on required Field of View (FOV = picture width) at both extremes of the lens extension (Wide Angle and Telephoto). Depth of field (i.e. subject focus range) = Max(imum) - Min(imum). Your results may vary slightly.

Lens	Close-up Settings (Measurements in Inches)			
	Focus Distance (In.)	FOV (W/A)	FOV (Tele)	
+1	Min	11.00	10.75	4.00
	Mid	13.00	12.50	4.50
	Max	15.00	14.25	5.25
+2	Min	9.25	9.00	3.25
	Mid	10.13	9.75	3.50
	Max	11.00	10.50	3.75
+3	Min	7.00	7.00	2.50
	Mid	7.75	7.50	2.75
	Max	8.50	8.00	3.00
+4	Min	6.00	5.75	2.13
	Mid	6.50	6.13	2.25
	Max	7.00	6.50	2.38
+5	Min	5.00	4.88	1.88
	Mid	5.50	5.38	2.00
	Max	6.00	5.68	2.13
+6	Min	4.50	4.38	1.63
	Mid	4.75	4.63	1.75
	Max	5.00	4.75	1.88
+7	Min	4.13	4.13	1.50
	Mid	4.30	4.25	1.55
	Max	4.50	4.38	1.63

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<http://www.photosolve.com>



## Xtend-a-Lens™ 290

for use with Kodak™ DC26X™ and DC290™ Digital Cameras

### User Guide

Congratulations on your purchase of the "Xtend-a-Lens™ 290" adapter for Kodak DC26X and DC290 series digital cameras. It will change the way you take pictures.

#### Description

The Xtend-a-Lens is a rugged, precision optical device, constructed of anodized aluminum, which should provide years of useful service with your camera. The Xtend-a-Lens has a 49mm thread which accepts all 49mm filters and lens attachments. It will accommodate a standard 49mm lens cap as well, which is recommended if you are going to be leaving the Xtend-a-Lens installed for extended periods of time. It can be easily adapted to other thread pitch accessories (52mm, 58mm, etc.) through the use of a simple step-up or step down adapter, available in most photography stores.

#### Attaching Xtend-a-Lens to your camera

To ensure that you do not damage the lens of your camera during installation, turn the camera off, ensuring that the camera lens is fully retracted into the barrel. Install the adapter by holding your camera in one hand, the adapter in the other (with the gray rubber sleeve end facing the front of the camera), and gently twist the adapter onto the barrel attached to the camera. The adapter should slide all the way on to the camera. Once installed, the gray rubber sleeve provides an adequate connection to support most of your camera accessories.

Now, turn on your camera (in the "Capture" mode, which will cause the camera lens to extend part way), and ensure that the Xtend-a-Lens is properly centered on the lens barrel: look directly at the end of the adapter, and then at the lens. You should see the same amount of space all the way round the lens. To adjust, gently move the adapter until it's centered (this process will ensure that the lens does not bind against the adapter when you move it in and out using the Wide Angle/Telephoto switch). Now you're ready to add accessories.

#### Taking pictures with Xtend-a-Lens

##### *Macro Lenses and Close-up Photography*

Close-up lenses come in a variety of different flavors, however, the most common is a three lens set, consisting of +1, +2, and +4 (the

numbers represent diopters, and the bigger the number, the closer you can get to the object being photographed), which can be used individually, or combined for (in this case) a total of +7. Insert the desired lens or combination of lenses by screwing them into the adapter. At the maximum value (+7), an object will be in focus at between 4 and 5 inches (approximately). Check the enclosed table for additional information. As the Viewfinder of the camera does not focus at this distance, you'll need to select Manual Focusing and use the LCD to frame and focus your picture. This procedure and others assume that you're familiar with the basic operation of your camera, including using the built-in screen options.

Set the Mode selector switch to **CAPTURE**:

- Press the **Menu** button on the back of the camera.
- Press the navigational button several times until the screen displays Advanced Focus Modes.
- Scroll down and select Manual Focus. The screen will now display Manual Focus Setup.
- Use the navigational button to select the smallest Focus Distance (this should be 50 cm/1.5 feet). Then press the **Done** button. Finally, press the **Done** button once again to return you to normal **CAPTURE** mode.
- Press the **Display** button to turn on the LCD. As this mode uses up batteries rapidly, it is recommended that you use the Kodak AC adapter, a separate battery pack, or keep a supply of charged NiMH batteries on hand.
- To take pictures, simply frame the picture in the LCD, and move the camera closer or further away to focus the object in the screen. This may take some practice, but you'll determine quickly what the approximate distance should be for each of your close-up lens combinations. We recommend that you use a tripod for this purpose, as it will minimize camera movement and ensure the highest quality of detail.

*Using Filters with your camera*

Filters can dramatically alter photographic results. Star filters, Polarization filters, and others can be obtained through your photo dealer. You should be aware that some filters will change the amount of light that the camera sees, and so you will need to correct the exposure using the EV correction capabilities of the camera. If you notice that your pictures are coming out too light, you'll need to reduce the EV, and conversely, if the pictures are too dark, you'll need to increase the EV. The procedure to change the EV is fairly simple (refer to your camera's user' guide for more information).

- Press the **Scroll** button on the top of the camera twice to select the type of exposure mode you want. This causes the word AUTO to flash in the display.

- Press the **Select** button multiple times and the values 0.5 EV, 1.0 EV, 1.5 EV etc. will be displayed. When your choice appears, you can press the **Scroll** button again, or wait and the camera will select this new value.
- Take another picture and determine if the value that you have selected is correct. Repeat the process until the picture looks good. It's helpful to keep notes of your process so that you can set up quickly the next time you come across the same or similar conditions.

#### **Important Note**

*Certain filters and accessories may prevent the auto-focus from working correctly on your camera (either due to dark lighting or filter color). If this happens (the red light will display), you should try the Manual Focus mode, using a distance setting that is appropriate for the scene. Alternatively, you can "trick" the camera into auto-focus, by removing the adapter, half-pressing (and holding) the shutter, and then reinstalling the adapter prior to pressing the shutter button all the way. This is tricky, and is best accomplished with a tripod, but it does work. You'll need to check the exposure and adjust appropriately. If you're using a Polarization Filter with the adapter, you should turn on the Display LCD to check the effect, before taking the picture.*

#### **Other devices**

Lens Hoods such as the Ambico™ Lens hood and Cokin™ filter assembly can be attached to your adapter, thus providing you with additional filtering and special effects. Note that you will need to use the Manual Focus mode, as these accessories will generally block the focusing beam.

#### **Care and Feeding of your adapter**

Because of the rugged design, the Xtend-a-Lens should not require any special cleaning or care other than an occasional wipe with a clean cloth. Please observe the following when using or storing your adapter.

- **DO NOT apply solvents to the adapter**
- **DO NOT expose the adapter to high temperatures**
- **DO use the adapter for the purpose it was intended and enjoy your new world of photography**

#### **Warranty**

Xtend-a-Lens™ is warranted to be free of manufacturing defects for a period of 90 days. If during that time, the unit becomes defective, it should be returned to the place of purchase for replacement. The manufacturer reserves the right to repair or replace defective units. Units out of warranty will be repaired or replaced at a nominal fee by the manufacturer. Contact the manufacturer to arrange return and repair.

Thank you for your purchase of Xtend-a-Lens. We hope that it will provide you years of satisfaction, and enjoyment. Capture the moment. Keep on taking pictures!