

The camera settings shown below offer a starting point for taking pictures with the Nikon Coolpix 5000 digital camera. Nikon also includes with each camera a help manual entitled, "The Nikon Guide to Digital Photography with the Coolpix 5000 Digital Camera". We encourage you to familiarize yourself with the settings and usage of this camera.

A Recommended Settings for Extraoral Photographs

1 Initial Steps:

Turn the camera on by rotating the top dial to "On". The menu button on the back of the camera should be set to the Shooting mode. 



Shooting Mode

2 Adjust image quality:

Click on the  button on the back of the camera until the FINE option is displayed.

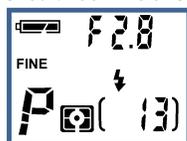
3 Adjust flash settings:

Click on the flash button  on the back of the camera until the flash displays only the  symbol. This enables the Anytime Flash mode.

4 The Nikon 5000 camera has 3 user-defineable settings and one automatic setting. We recommend the automatic setting for extraoral photographs, although you can easily create custom settings for your extraoral photos. To change settings, hold down on the Function key  on the top of the camera and rotate the command dial. A window will appear in the upper left corner of the large rear LCD indicating the current user setting. For the automatic mode, make sure no numbers are present in the left corner of the screen.

5 We suggest using either a **wall mounted lightbox with a built-in slave flash** or a **bare slave flash** to eliminate shadows on the facial photos. If you are using a bare slave flash, we have found that it works best when placed precisely behind the patient's head, facing toward a white background. You may need to adjust the brightness on the background lighting that you use in order to generate accurate soft tissue hues. Overhead fluorescent lighting may also affect the color of the images. You can replace the fluorescent bulbs with halogen lighting to produce better color images. Professional photographers spend time setting up their studios for just the right picture. We also have to invest time in setting up our offices for the right lighting for digital images.

Your Control Panel should look like this.



FINE mode with Anytime Flash enabled.

Tips for Taking Extraoral Images

When you are taking the lateral head image, make sure the patient's head is level, with no tilting or canting. We suggest that you place a mirror in front of the patient with a vertical line and have them align themselves to it. This will make it easier to align the photos to the x-ray tracings. You should capture the photo with the camera lens aligned with the patient's Frankfurt Horizontal plane to ensure the most accuracy.

B Recommended Settings for Intraoral Photographs

For intraoral photographs, we recommend adjusting the camera settings using one of the 3 user-defineable settings. This gives you greater control over the exposure and depth of field of the images, resulting in higher quality pictures than in the auto mode. The settings for each user setting only needs to be created once, as the camera "memorizes" them.

1 Changing User Settings:

You should change the user settings to one of the 3 user-defined settings by following the steps described above.

2 General settings:

To take intraoral images, the camera must be switched to the **Macro Close-up** mode. To activate this mode, press the **AF** button  until the  icon appears in the Control Panel and the LCD monitor. The **Anytime Flash** mode should be turned on as well.

3 Adjusting ISO film speed:

The ISO settings define how quickly the camera takes the picture. A higher ISO number means the camera will take the picture quickly, so there's less chance of blurry pictures. This is especially useful for intraoral pictures.

To set the ISO settings, hold down the flash button on the back of the camera and rotate the "Command Dial" located at the top of the camera as shown:

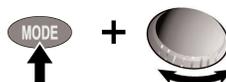


The letters ISO should appear in the Control Panel. You should stop rotating the dial when **ISO 400** appears.

4 Adjusting Aperture Priority:

For a better depth of field, you should adjust the Aperture settings. Setting the camera on "Aperture Priority" allows you to adjust the camera so you can take pictures where the foreground and the background are both sharp. This is crucial for intraoral photographs.

To enable "Aperture Priority", hold down the "Mode" button and rotate the "Command Dial" located on the top of the camera until the **A** icon appears:

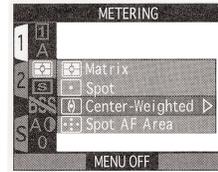


Next, rotate the "Command Dial" all the way to the right until the you reach an F-Stop of about 8.0, which appears in the control panel screen at the top of the camera. This fully zooms in the lens, and is ideal when taking intraoral pictures. You should now hold the camera as close to the subject as possible before the image goes out of focus.

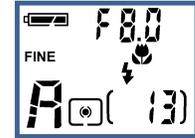


5 Adjusting the Metering:

Metering allows the camera to determine how much light is necessary for illuminating a certain picture. You should use **Center-Weighted Metering** for intraoral pictures, as it allows you to preserve background detail while providing the right amount of light output for the teeth. To select this, click on the **Menu** button on the back of the camera and use the **Selector** button to navigate to the **Metering** option, as shown below. When Center-Weighted is highlighted, push on the right arrow of the Selector button to select.



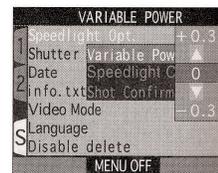
After all of the settings have been selected, the Control Panel at the top of the camera should resemble the image shown below.



Manual Mode with:
Macro setting
Anytime Flash
ISO 400 setting
Aperture Priority
Center Weighted Metering
Reduced Flash output



Selector Button



6 Adjust the Speedlight settings:

To eliminate overexposure for intraoral pictures, you can adjust the flash output of Nikon's **Speedlight**. To do this, click on the Menu button on the back of the camera. Then, click on the left arrow of the Selector Button. Scroll down to the "S" option and click to the right. The screen will show "Setup 1" at the top. Scroll down past the last option on this page to get to "Speedlight Opt." Click to the right and select "Variable Power".

We recommend using a setting of **-1.3** for frontal and buccal intraorals. However, you may need to adjust this value to fit the lighting in your office.

TIP

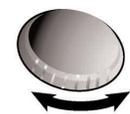
We recommend purchasing an additional **Nikon EN-EL1** rechargeable Li-ion battery. The programmed settings will be lost if the batteries are taken out of the camera for more than 2 hours.

Tips for Taking Intraoral Images

To take intraoral images, zoom-in the lens fully and physically move the camera away from the patient's mouth until the image comes into focus. This is recommended because the flash is further from the patient's mouth, decreasing the possibility of overexposure. Also, this gives you more room to crop the image, as well as room to position the retractors and mirrors. We recommend taking the frontal and buccal intraoral pictures about 8 to 10 inches from the patient's mouth. Although this may seem far, with the camera's high resolution, you will not lose clarity when cropping the images. When you are taking the frontal and buccal intraoral pictures, make sure to take the picture at a 90° angle to the teeth. Also, try to align the horizontal plane of the camera with the patient's occlusal plane. This will save time, as you will not have to rotate the image inside Quick Ceph later.

For the occlusal pictures, we recommend taking the images approximately 10 inches away from the patient's mouth. Due to the height of the flash, taking the image closer would result in the patient's lips obscuring the flash.

Occlusal pictures tend to be darker than the frontal and buccal pictures. We recommend increasing the aperture of these pictures by one or two F-stops by rotating the Command Dial slightly to the left. You can also set the camera to the A-mode and turn on the Macro feature. For upper occlusal images taken with a mirror, we recommend flipping the camera upside down to eliminate shadowing. Please remember to horizontally flip the image when you import it into Quick Ceph. Otherwise, the image will be displayed horizontally inverted.



Command Dial

TIP

If the occlusal pictures appear too dark, you should set the camera to the A-mode and turn on the Macro. This adds more light to the occlusal pictures.

C Adjusting Images While in QCIPro and QC2000

Images taken while the camera is flipped upside down can be rotated easily in QC2000 and QCIPro. For information on image editing, please see Chapter 2 in the Quick Ceph Manual (downloadable from www.quickceph.com).

Please Note: We only recommend this camera. We do not manufacture it. If you have technical difficulties, please contact Nikon Support at **1-800-645-6689**.