# 14. Rendering and Outputting

**Lesson overview**

In this lesson, you'll learn how to do the following:

- Create render-settings templates for the Render Queue.
- Create output-module templates for the Render Queue.
- Output movies using Adobe Media Encoder.
- Select the appropriate compressor for your delivery format.
- Use pixel aspect ratio correction.
- Output the final composition for HDTV 1080p resolution.
- Produce a test version of a composition.
- Create custom encoding presets in Adobe Media Encoder.
- Render and output a web version of the final composition.

The total amount of time required to complete this lesson depends in part on the speed of your processor and the amount of RAM available for rendering. The amount of hands-on time required is less than an hour. Download the Lesson14 project files from the Lesson & Update Files tab on your Account page at www.peachpit.com, if you haven't already done so. As you work on this lesson, you'll preserve the start files. If you need to restore the start files, download them from your Account page.


PROJECT: OUTPUTTING YOUR PROJECT FOR MULTIPLE USES

The success of any project depends on your ability to deliver it in the format you need, whether it's for the web or broadcast output. Using Adobe After Effects and Adobe Media Encoder, you can render and export a final composition in a variety of formats and resolutions.

## Getting started

This lesson continues from the point at which many of the preceding lessons end: when you're ready to output the final composition. In order to produce several versions of the animation for this lesson, you'll explore options available within the Render Queue panel and Adobe Media Encoder. For this lesson, we provide you with a starting project file that is essentially the final composition from Lesson 12 of this book.

1. Make sure the following files are in the Lessons/Lesson14 folder on your hard disk, or download them from your Account page at www.peachpit.com now:
   - In the Assets folder: DesktopC.mov, Treasures_Music.aif, Treasures_Title.psd
   - In the Start_Project_File folder: Lesson14_Start.aep
   - In the Sample_Movies folder: Lesson14_Final_360p_Web.mp4, Lesson14_Final_1080p.mp4, Lesson14_Final_lowres_Web.mp4, Lesson14_Final_MPEG4.mov, Lesson14_HD_test_1080p.mp4

**Note**

The Lesson14_HD_test_1080p.mp4 file includes only the first five seconds of the movie.

2. Open and play the sample movies for Lesson 14, which represent different final versions of the movie—rendered with different quality settings—that you created in Lesson 12. When you're done viewing the sample movies, quit QuickTime Player. You may delete the sample movies from your hard disk if you have limited storage space.

As always, when you begin the lesson, restore the default application settings for After Effects. See "Restoring default preferences" on page 2.

3. Start After Effects, and then immediately hold down Ctrl+Alt+Shift (Windows) or Command+Option+Shift (Mac OS). When prompted, click OK to delete your preferences. Close the Start window.
4. Choose File > Open Project. If the Start screen opens, click Open Project in it.
5. Navigate to the Lessons/Lesson14/Start_Project_File folder, select the Lesson14_Start.aep file, and click Open.

**Note**

If you receive an error message about missing layer dependencies (Arial Narrow Regular), click OK.


6. Choose File > Save As > Save As.
7. In the Save As dialog box, navigate to the Lessons/Lesson14/Finished_Project folder.
8. Name the project **Lesson14_Finished.aep**, and then click Save.
9. Choose Window > Render Queue to open the Render Queue panel.

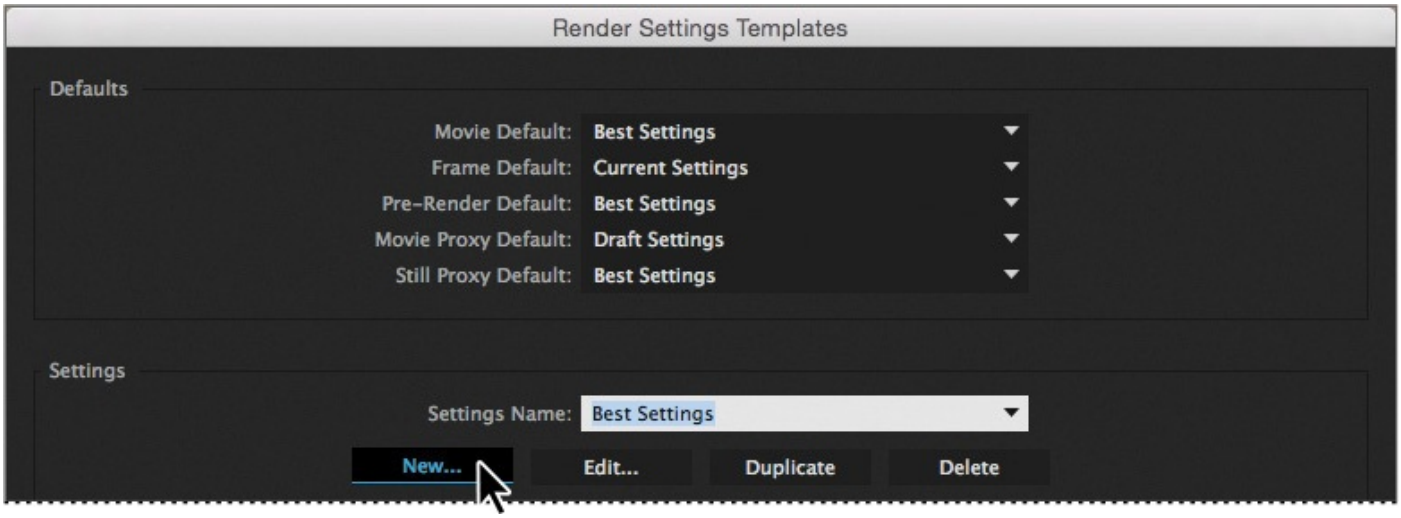
## Creating templates for the Render Queue

When you output your compositions in previous lessons, you selected individual render and output-module settings. In this lesson, you'll create templates for both render settings and output-module settings. These templates are presets that you can use to streamline the setup process when you render items for the same type of delivery format. After you define templates, they appear in the Render Queue panel on the appropriate pop-up menu (Render Settings or Output Module). Then, when you're ready to render a composition, you can simply select the template that is appropriate for the delivery format that your job requires, and the template applies all the settings.

## Creating a render-settings template for test renderings

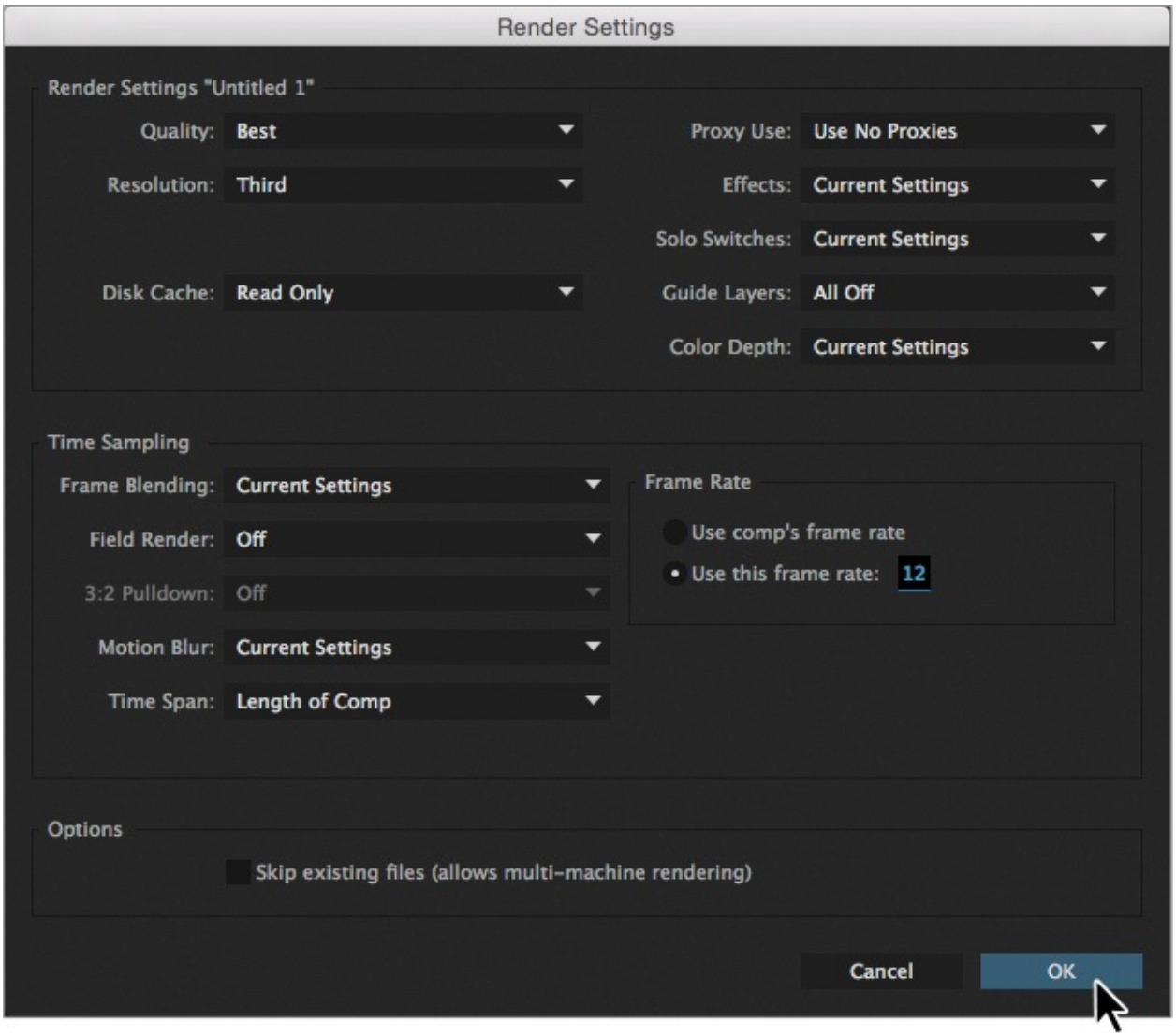
You'll create a render-settings template, selecting settings appropriate for rendering a test version of your final movie. A test version is smaller—and therefore renders faster—than a full-resolution movie. When you work with complex compositions that take relatively long times to render, it is a good practice to render a small test version first. This helps you find any final tweaks or blunders that you want to adjust before you take the time to render the final movie.

1. Choose Edit > Templates > Render Settings. The Render Settings Templates dialog box appears.
2. In the Settings area, click New to create a new template.



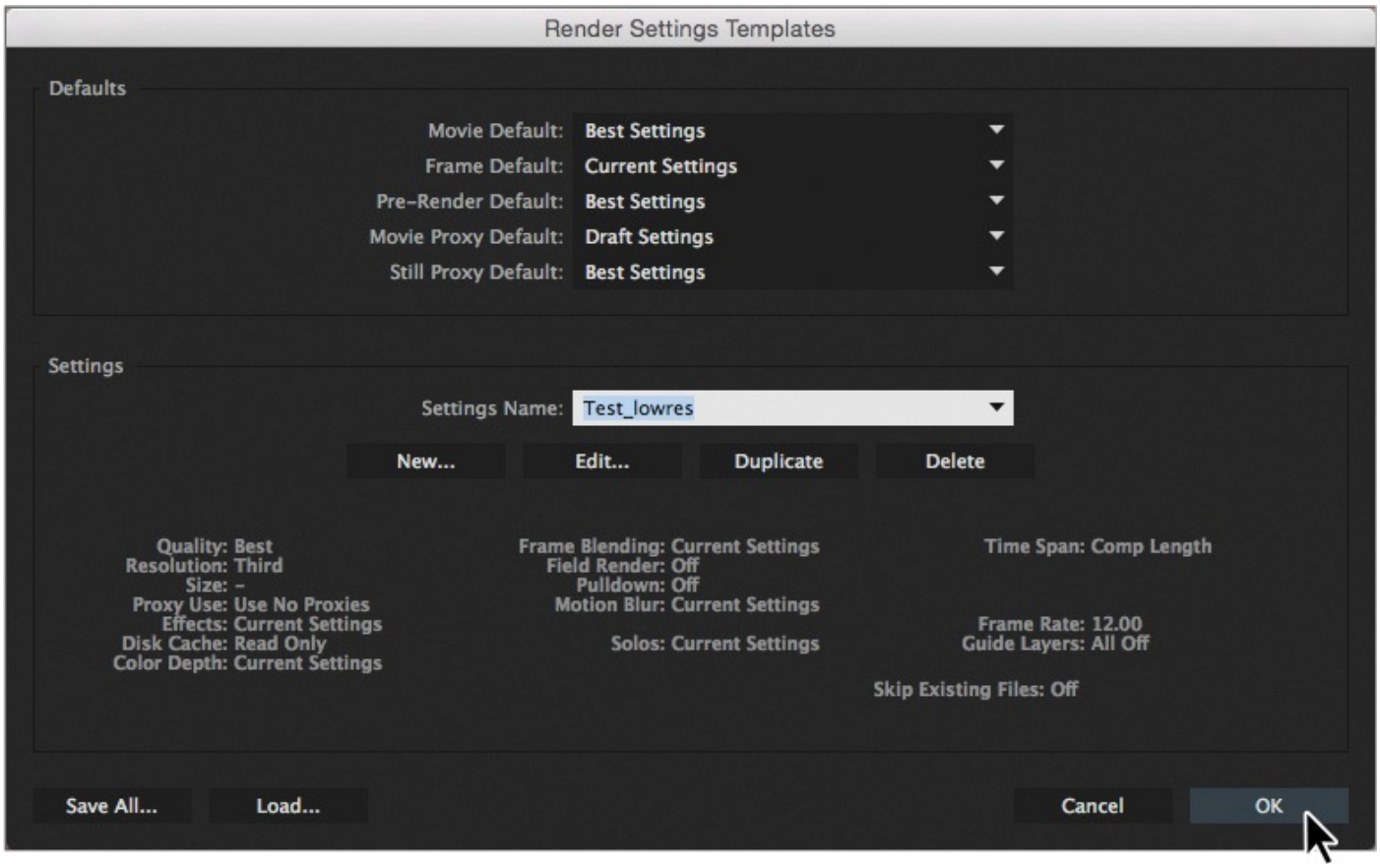

3. In the Render Settings dialog box, do the following:
   - Leave Quality at Best.
   - For Resolution, choose Third, which reduces the linear dimension of the composition to one-third.
4. In the Time Sampling area, do the following:
   - For Frame Blending, choose Current Settings.
   - For Motion Blur, choose Current Settings.
   - For Time Span, choose Length Of Comp.
5. In the Frame Rate area, select Use This Frame Rate, and type **12** (fps). Then click

OK to return to the Render Settings Templates dialog box.




6. For Settings Name, type **Test_lowres** (for *low resolution*).

7. Examine your settings, which appear in the lower half of the dialog box. If you need to make any changes, click Edit to adjust the settings. Then click OK.

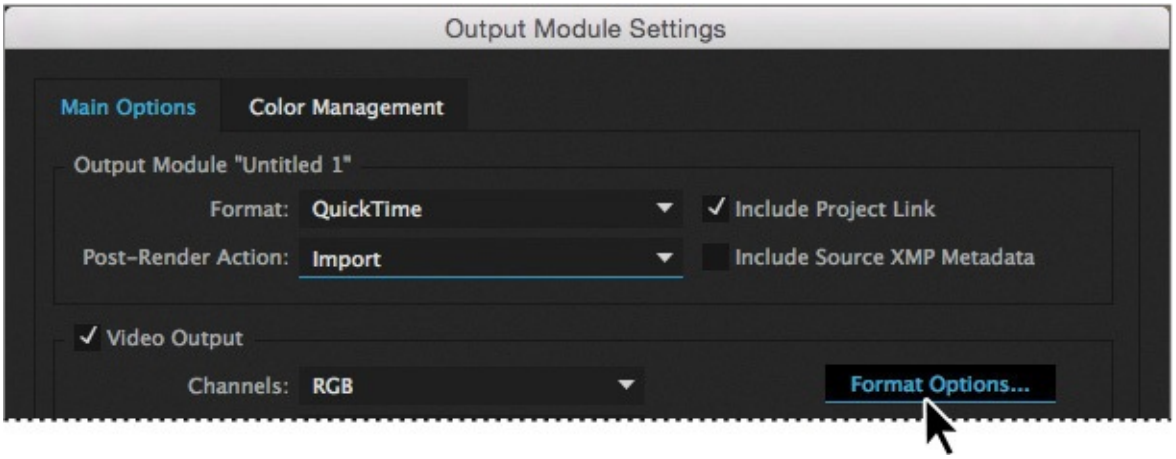



The Test_lowres option will be available on the Render Settings pop-up menu in the Render Queue panel.

## Creating templates for output modules

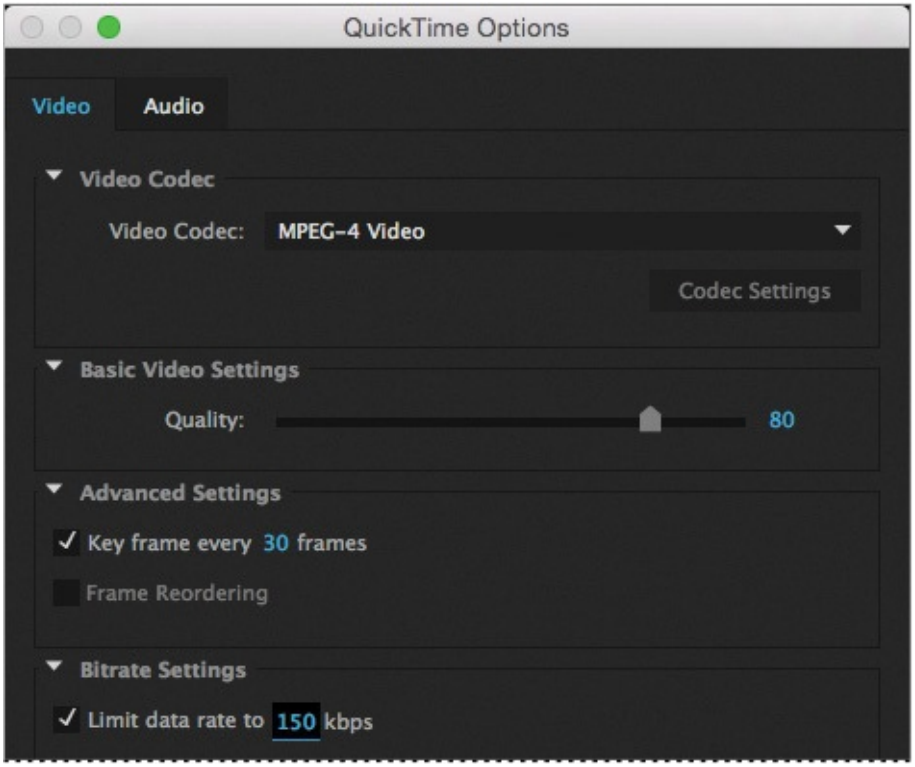
You'll use a similar process to create a template to use for output-module settings. Each output-module template includes unique combinations of settings that are appropriate for a specific type of output. You'll create one that is appropriate for a low-resolution test version of the movie, so you can quickly see a rendered version to identify any changes you want to make.

1. Choose Edit > Templates > Output Module to open the Output Module Templates dialog box.
2. In the Settings area, click New to create a new template.
3. In the Output Module Settings dialog box, make sure the Format is QuickTime.
4. For Post-Render Action, choose Import.
5. In the Video Output area, click Format Options.




6. Select the following settings in the QuickTime Options dialog box:

   - For Video Codec, choose MPEG-4 Video. This compressor automatically determines the color depth.
   - Set the Quality slider to **80**.
   - In the Advanced Settings area, select Key Frame Every, and then type **30** (frames).
   - In the Bitrate Settings area, select Limit Data Rate To, and type **150** (kbps).

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**Note**

The IMA 4:1 compressor is commonly used when compressing audio for web or desktop playback.

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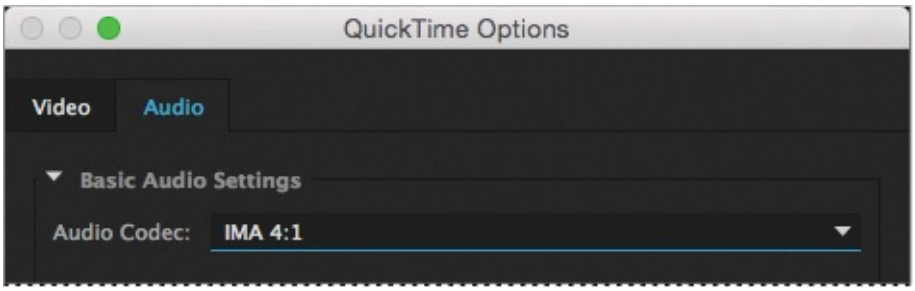
7. Select the Audio tab, and choose IMA 4:1 from the Audio Codec menu.




## About compression

Compression is essential to reduce the size of movies so that they can be stored, transmitted, and played back effectively. When exporting or rendering a movie file for playback on a specific type of device at a certain bandwidth, you choose a compressor/decompressor (also known as an encoder/decoder), or *codec*, to compress the information and generate a file that is readable by that type of device at that bandwidth.

A wide range of codecs is available; no single codec is the best for all situations. For example, the best codec for compressing cartoon animation is generally not efficient for compressing live-action video. When compressing a movie file, you can fine-tune it for the best quality playback on a computer, a video playback device, the web, or from a DVD player. Depending on which encoder you use, you may be able to reduce the size of compressed files by removing artifacts that interfere with compression, such as random camera motion and excessive film grain.

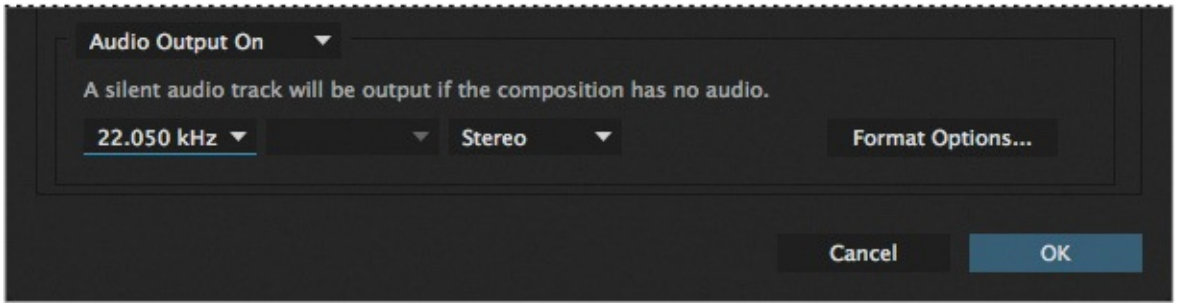
The codec you use must be available to your entire audience. For instance, if you use a hardware codec on a capture card, your audience must have the same capture card installed, or a software codec that emulates it.

For more about compression and codecs, see After Effects Help.

**8.** Click OK to close the QuickTime Options dialog box and return to the Output Module Settings dialog box.

**9.** Choose Audio Output On from the pop-up menu at the bottom of the dialog box. Then choose the following audio settings, from left to right:

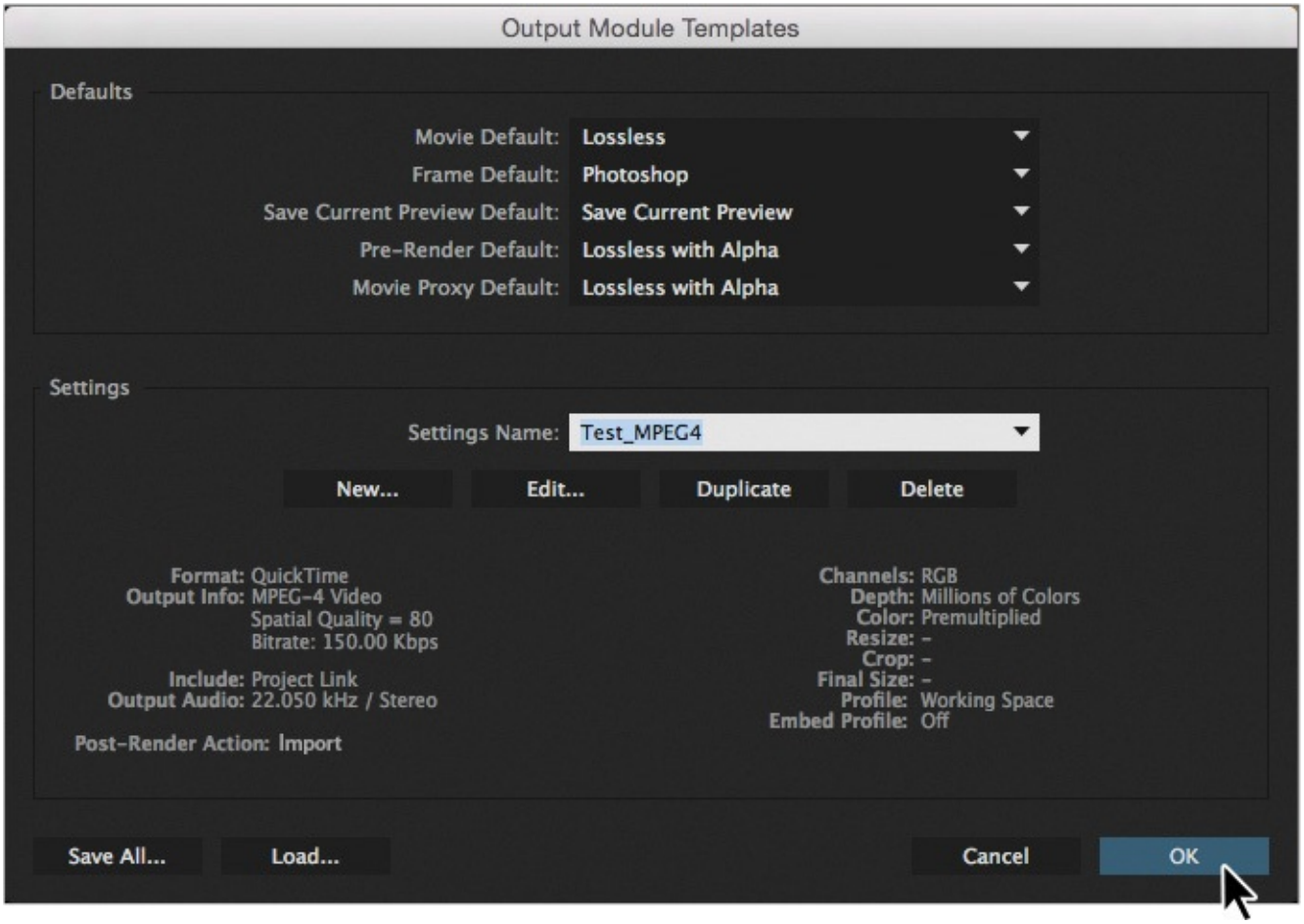
- Rate: 22.050 kHz
- Use: Stereo




**10.** Click OK to close the Output Module Settings dialog box.

11. In the lower half of the Output Module Templates dialog box, examine your settings, and click Edit if you need to make any changes.

12. For Settings Name, type **Test_MPEG4**, and then click OK. Now this output template will be available on the Output Module pop-up menu in the Render Queue panel.




As you might expect, greater compression and lower audio sample rates create smaller file sizes, but they also reduce the quality of the output. However, this low-resolution template is fine for testing your movie before you make final edits.

## Exporting using the Render Queue

Now that you have created templates for your render settings and output modules, you can use them to export the test version of your movie.

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**Tip**

Alternatively, you can drag the composition from the Project panel onto the Render Queue panel.

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1. Select the DesktopC composition in the Project panel, and choose Composition > Add To Render Queue.