



## Create Your Own Training Guides and Videos

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### CM7221

You've no doubt seen great training videos and course guides that made learning seem easy. Well it's time for you to create these types of resources yourself—but where do you start? What kind of hardware, software, sound equipment, scripts, and cameras do you need to become your own video/training producer? In this class we will answer these questions while passing along effective practices for using Camtasia software as our editing tool of choice. We will show you how to set up a video capture environment and produce output for computers, Apple iPads, and television. We will cover story boarding, audio/video capturing, using voice recognition, captioning, and basic voice-over editing. We will also discuss some techniques you can use to refine your training using video drafting to evaluate your technique, voice, and pacing. If you have wanted to start making your own training videos but weren't sure how to do it, this class will give you everything you need to get started.

### Learning Objectives

At the end of this class, you will be able to:

- Learn how to capture live audio and video learning modules
- Learn how to storyboard concepts and use video to proof lessons
- Learn how to edit video and audio and create basic effects
- Learn how to set up your own audio/video studio

### About the Speaker

Since 1991 Robert Green has provided CAD management consulting, programming, training, and technical writing services for clients throughout the United States, Canada, and Europe. A mechanical engineer by training, Robert has used many popular CAD tools in a variety of engineering environments since 1985. Robert has acquired his expertise in CAD management via real-world experience as the “alpha CAD user” everywhere he has worked. Over time he has come to enjoy the technological and training challenges associated with CAD management, and he now trains CAD managers via public speaking. Robert is well known for his insightful articles in Cadalyst magazine and for his book, *Expert CAD Management: The Complete Guide* (published by Sybex). When he's not writing, Robert heads his own consulting practice, Robert Green Consulting, based in Atlanta, Georgia.

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## Foreword

Creating your own coordinated course guides and training videos is an expressive and efficient way to personalize training for your users without having to redo your training sessions over and over. Full disclosure: Working in the video medium does take a little getting used to but I've found it to be very worthwhile.

What I'll endeavor to do in this session is get you started, give you some tips, tell you things to avoid and explain enough of the technology to make you comfortable. We'll be using the industry standard Camtasia program as the basis for our examples – but even users of other software programs can use the tip/tricks presented here.

## Machine, Hardware and Software Considerations

In order to start making training videos you'll need to get your recording environment setup properly. Here are some general guidelines you can use to get a functional recording environment that yields high quality results without going broke:

**Computer:** If your machine can run CAD applications efficiently it should be up to the task of capturing audio/video. I like to use my laptop as my recording platform simply because I can take it with me and record training sessions on site easily. I use a Windows 7 based Quad-Core with 8 Gigabytes of RAM and a Solid State Disk but have used machines with less beefy specs just fine.

**Software:** I use Camtasia Studio ([www.camtasia.com](http://www.camtasia.com)) as my recording application. Camtasia's strength is that it can produce videos in virtually any format (Windows Media, Real Media, QuickTime, Flash, MOV, etc) and supports the widest variety of audio formats and interfaces as well. While Camtasia isn't cheap at \$299 (you can download a fully functional 30 trial version to try it out) I find that the capabilities it provides are worth the cost.



**Audio hardware:** A big part of making training videos is the narration you provide, so the quality of audio you record is an integral part of the overall experience. To capture the audio with the highest quality you need to use a good microphone. I recommend USB interface microphone (like the Blue Snowball, Blue Yeti (that's what I use) or MXL 990.) which bypasses your computer's low quality analog input jack in favor of a digital recording interface. And while getting the volume levels set on the USB microphone set requires a little tweaking, you'll be rewarded with much better sound.



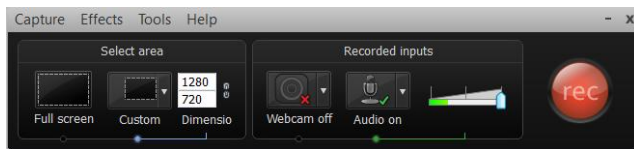


You can find a variety of USB headset style microphones at most any office or computer store these days. Headset units are great for presenters who want to stand up and move, while the desk based units provide better audio for those who are stationary at the keyboard. None of these units are very expensive while all provide much better audio than a low end analog mic like you'd plug into your computer's microphone jack.

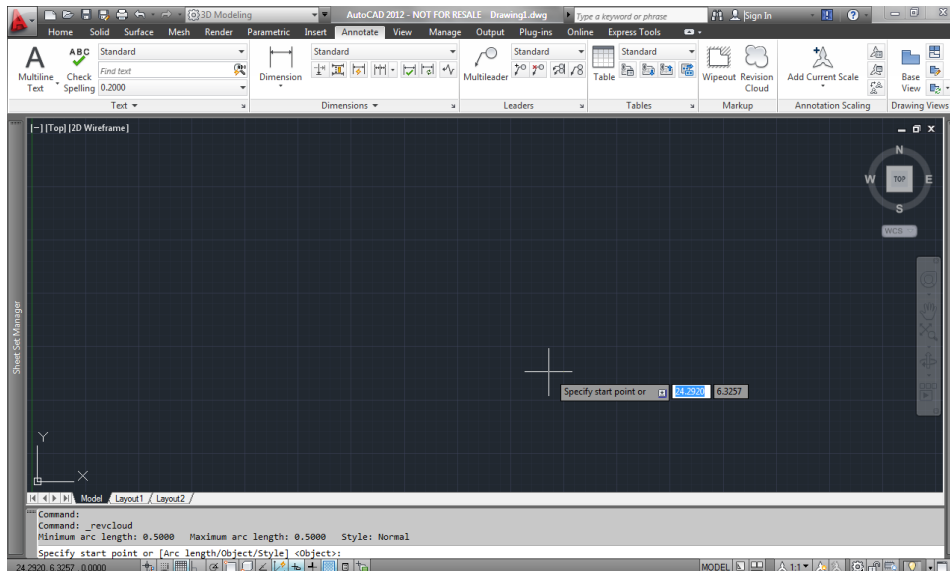
## Setting Video Recording Parameters

Even though your company might have super high resolution graphics cards and monitors you probably want to record your training videos using 1024 x 768 resolution (this aspect ratio is common for iPad devices) or 1280 x 720 for playback (common for HD on YouTube). If you record at higher resolutions you run the risk of not being able to display the videos on lower resolution machines. Finally, recording at lower resolutions will keep your video file sizes smaller and easier to move over networks later.

Access the video area capture settings from Camtasia's Recorder dialog control as shown here:



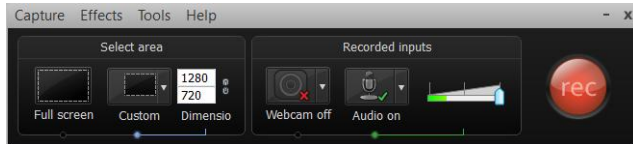
Now set your record area to capture your CAD application window as shown here:



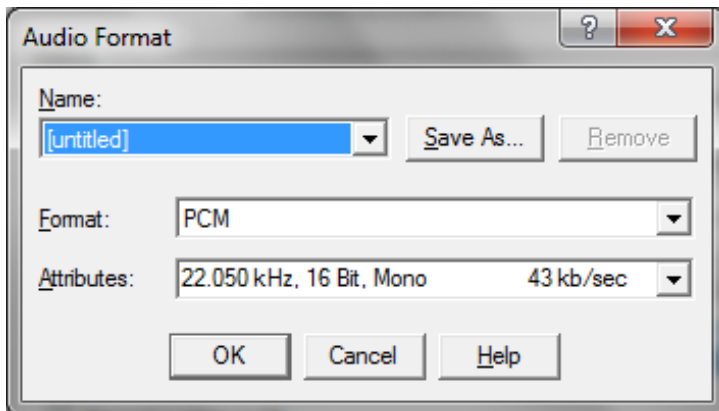
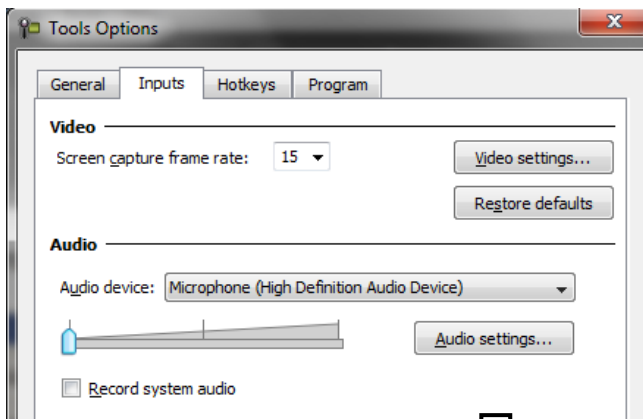
Clicking on the CAD application window tells Camtasia which application you wish to record. Make sure to size your CAD application window at 1280 x 720 (or whatever resolution you choose) and your recording resolution will be correct.

## Setting Audio Recording Parameters

For audio settings you want to record at a quality that captures the quality of the higher quality microphone you've purchased yet not go overboard by recording at CD quality. Remember that the higher quality audio you record the bigger your video file sizes will be. Access the audio settings from Camtasia's Tools - Options control as shown here:



Now set your microphone values as shown here:

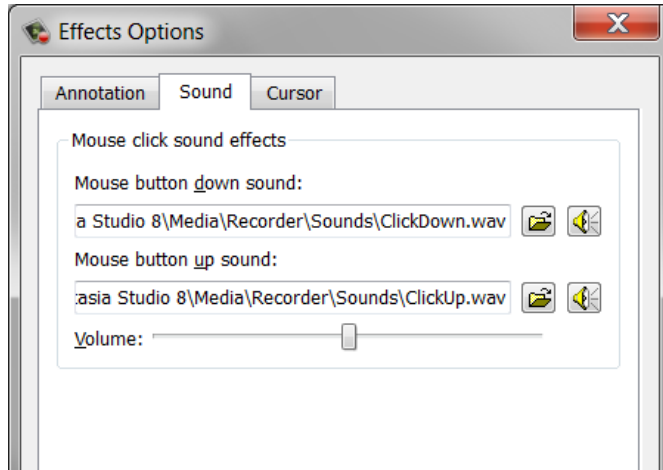


Setting audio to 22050 Hz and 16 Bit mono resolution yields great speech quality recording while keeping file sizes reasonably compact.

Now that you've defined the area you'll record and have your microphone configured we'll turn our attention to the Effects Dialog so you can create custom controls that illustrate mouse movements and click actions. Here are the key settings

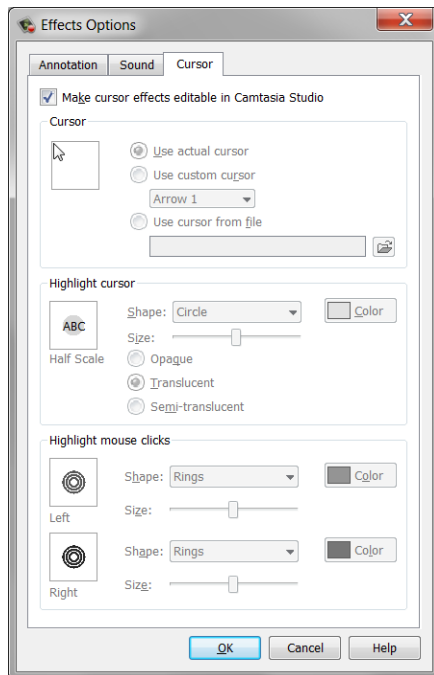
you'll want to activate in order of appearance in the menu.

First the ability to hear mouse clicks. Select Effects – Options then:



This option lets the viewer hear an audible click whenever you use a mouse button. I've found this setting to be invaluable in conveying when mouse clicks occur during use of a software product.

**Note:** Use the default sound files but take care to reduce the volume to a low level. The idea is to hear mouse clicks subtly in a way the complements your speaking without being annoying or overpowering.



Next making the mouse and click activities clearly visible via highlighting:

These options let the viewer see mouse movements much easier since your mouse pointer will be highlighted.

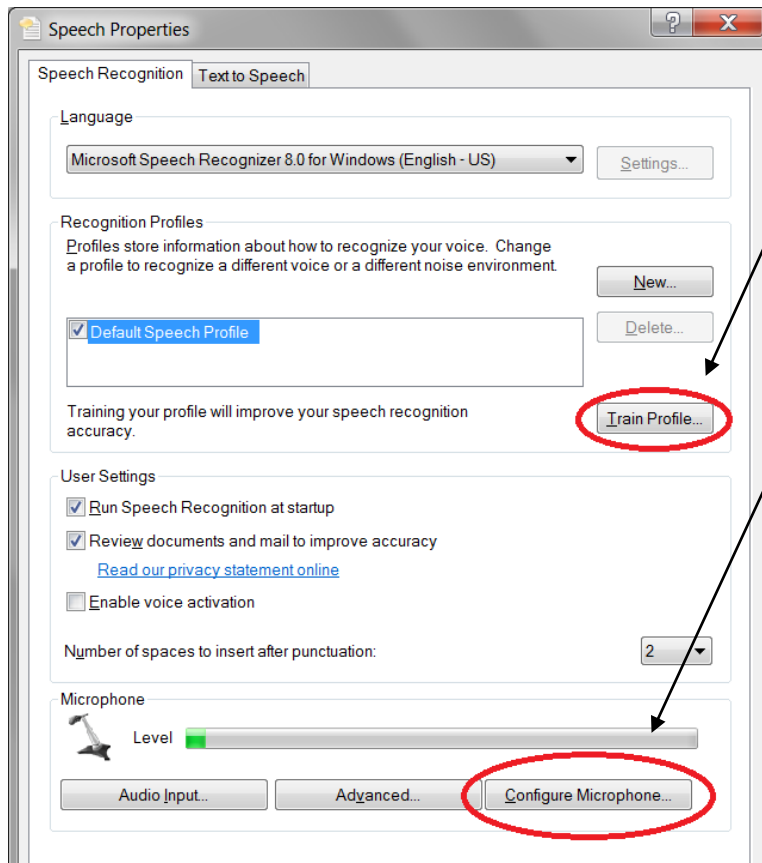
Use the default cursor settings with a conventional mouse pointer and you'll get great results. Now when the user sees a red set of circles around the cursor they know it was a left click, blue circles denote right clicks. I can't recommend this enough because users can now clearly understand the mouse actions involved.

**Note:** Once you have these parameters set that you should click the "Make cursor effects editable in Camtasia Studio" option at the top of the screen.

This approach will give you the best of both worlds by setting the visual options properly in the first place yet giving you the option to adjust the parameters during video production later – otherwise you'll be stuck with whatever your options are set to for the life of the recording.

## Speech Recognition

If you'd like to try your hand at having Camtasia convert your spoken word into text (to generate scripts as an example) you can use the Speech Recognition functionality to do so. Access the Speech Properties dialog (shown here) via the Tools -> Speech menu.



You'll need to go through an extensive training process (see upper red circle) to teach the program how you sound.

To get speech recognition going you'll need to configure your microphone for the optimal level (see lower red circle in dialog).

**Note:** I've only experienced average results with speech recognition so far and don't rely on it too much. I leave it to you if you want to try using it.

## Try Some Test Recordings

Now is your chance to take a few trial runs at recording and playback your results. You'll become more familiar with the Camtasia application as you work with it and you'll have the chance to get your microphone positioned properly and get all your volume settings tweaked properly.

As you make your trial runs take notes so you'll remember the settings you like best and let a few of your trusted power users look at and listen to the results to see what they think. The goal is simply to get a good recording with good quality audio so that your future recordings will be easy to work with.

## Presentation Tips

In order for any presentation, whether video or not, to work well you'll need to alter your presentation technique to convey maximum comprehension. Therefore I'd like to start off with some concepts that I see missed a lot in video presentations and explain each briefly.

**Show the end state:** Before you begin a lesson tell the user what the outcome will be and show them what the output will look like when finished. When the user knows what you're trying to achieve it'll be much easier for them to follow along.

**State the approach:** After showing the end result give a quick, high level description of what the lesson will contain. Again, when the user knows the approach you'll use it is much more likely that they'll understand.

**Start at the absolute beginning:** Even if you think your audience already knows a concept it is wise to briefly state it. There's nothing worse than not understanding a presentation because a simple step up front wasn't explained.

**Move at a calm pace:** Don't be too slow but be sure not to be too fast. If you move too fast somebody will get lost.

**Talk as you go:** Explain everything as you go along reference the stated approach you gave at the beginning of the presentation. Use action phrases like "I'll move the mouse" and "I'll click this dialog" so everyone knows what's going on. By talking as you go you'll also avoid "Dead Air" where the user is only left to guess what you're doing.

**Make sure they see the mouse:** Sometimes experienced users zap through mouse movements so fast that the person watching can't see the mouse. Slow down your mouse movements so they can be seen and consider enabling mouse trails.

**Click, double click, right click:** Make sure to explain when you are clicking and when you are double clicking and when you are right clicking on the mouse. Remember that the person watching can't see you work the mouse so you have to state what operation is happening.

## Story Boarding

In order to use the tips I gave for showing the end state and explaining your approach you need to prepare your lesson and have example files ready to go so your video can be recorded.

Take a few extra minutes to create a story board – a rough draft of your presentation – so that you'll have a good idea of exactly how you'll run through your presentation. I typically compose a story board for any videos I do then run through a rehearsal to make sure the story board is solid. Then I can proceed to recording the video.

**Note: *I haven't talked about creating the training guide yet but we'll get back to that shortly!***

## **Action – Time to Record**

Now it's show time! Time to use the settings you have configured and run through a sample training presentation in recording mode. Try something simple to start and then replay it to evaluate sound levels, cursor effects, pacing, sound level, everything!

Keep tweaking your settings until you like what you see and then record some real training sessions. Now you're making videos! That wasn't so bad was it?

## **Training Guide Preparation**

Now that you have the lesson down and recorded you can reverse engineer your training guide by following these steps.

**Go back to the beginning.** Reload your example files and start the lesson over.

**Go through the steps.** At each major input, dialog, command, etc. Get a screen capture (a utility like Snagit can be very helpful in capturing these) for every step of the process.

**Paste into Word saving often.** As you create your screen captures paste them into your Word session in chronological order so nothing gets out of place. Save often!

**Put in instructions and comments.** Now you type in the instructions for each step of the procedure leading up to each screen capture. Don't remember the words? Listen to the video!

**Proof it.** Once you have everything entered print out a copy and read through it as you listen to your video recording. Markup and edit as required.

I like to call this approach "talking my way through the handout" as it allows me to use my natural presentation techniques to craft a training guide that flows well, has minimal wording and provides rich visuals for the user to follow along with later.

This process eliminates writer's block and the "white screen of death" feeling when trying to write a training guide from scratch.



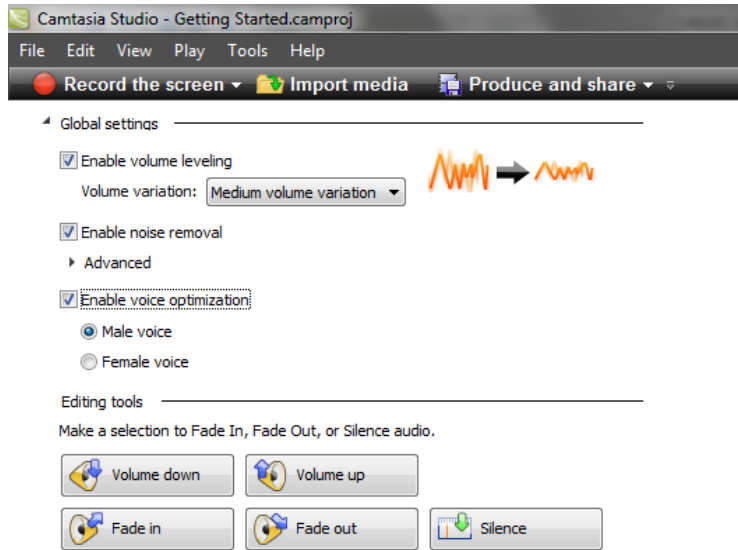
## Producing Final Video

Now that everything is recorded and the training guide is wrapped up the final step is to turn your recordings into finished sessions for playback by your users. While Camtasia is a full featured editing system you'll probably just want to produce the video captures as they are for now.

## Use Zoom and Pan (Key Framing)

If you want to produce videos that may be viewed on a tablet or smart phone it can be useful to build automatic zooms into your video production. To access this function use the Tools -> Zoom n Pan menu. You may now place zoom windows around the areas of the video you wish to highlight and a smooth zooming effect will be provided when producing your video.

## Cleanup the Recording



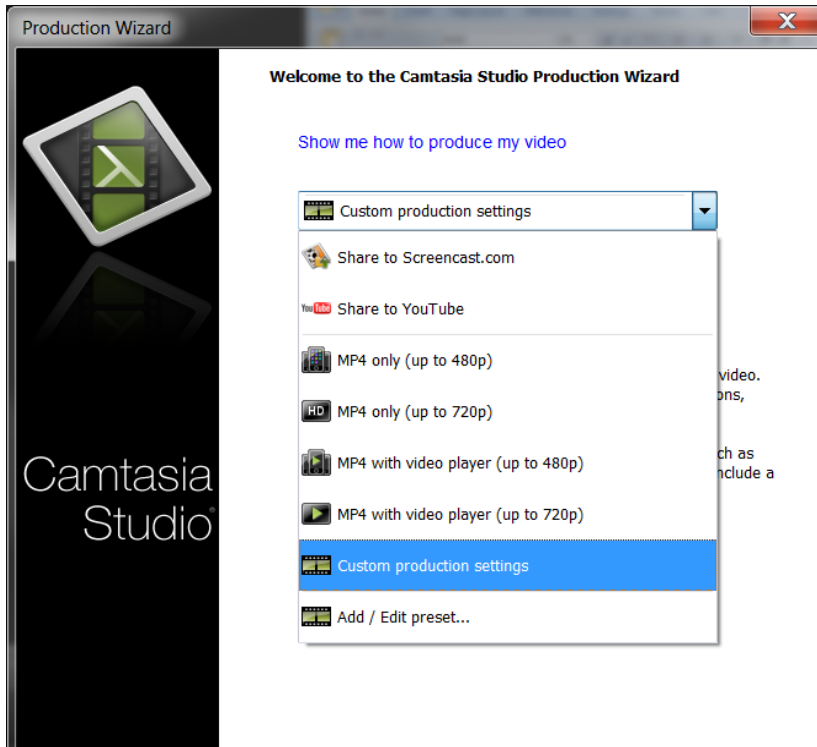
Access the Audio tools screen (as shown here) by selecting the Tools -> Audio menu.

Enable volume leveling to smooth out peaks in speech levels.

Enable noise removal to eliminate background hiss and ambient noise (kind of like noise cancelling headphones).

Enable voice optimization (male voice tends to boost midrange frequencies for more clarity and female voice tends to boost low frequencies and roll off highs).

## Use Custom Settings



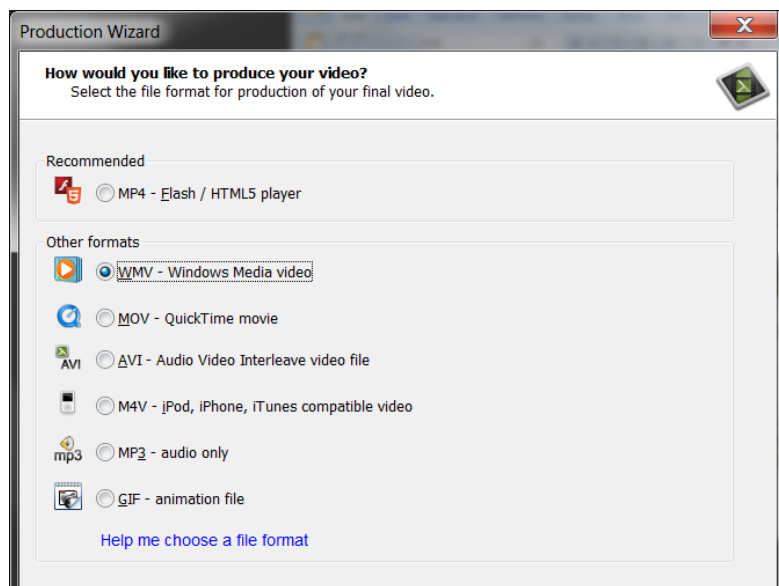
As you see here a variety of preset production settings are available for you to use. However, I recommend using Custom parameters (which can then be saved as a preset) to get everything exactly the way you want it.

For example, I find that creating videos in the Windows Media (WMV) format allows me to support the greatest number of users simply because everyone with a Windows based computer already has the player application so I don't have to worry about software CODECs, drivers or audio problems.

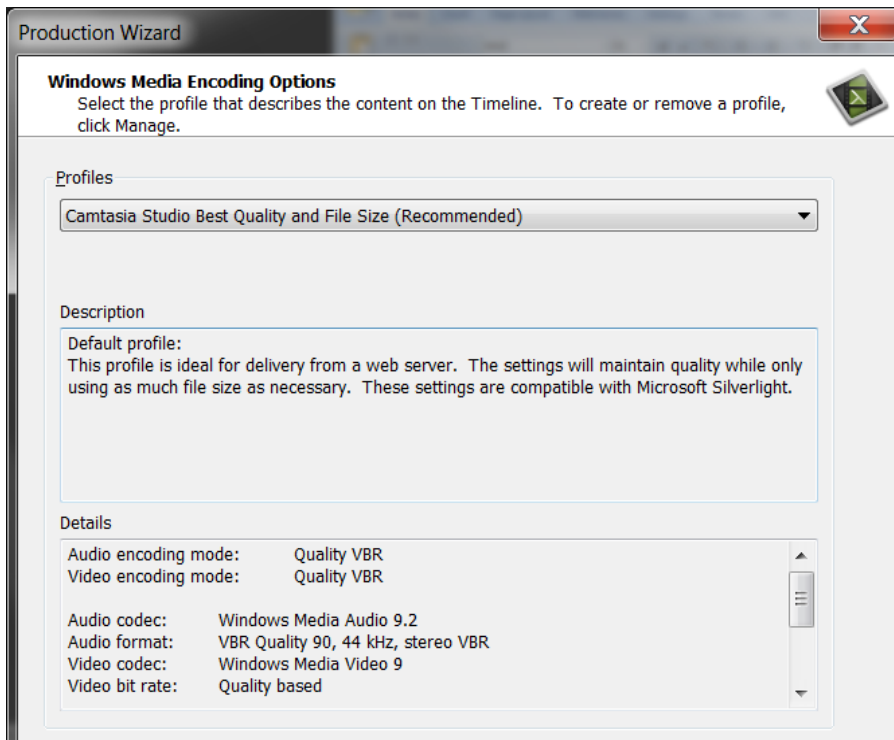
Now setup your production for Windows Media (WMV) format as shown in the dialog.

**Caveat:** *If you have to stream your videos over slow WAN connections Flash (first option in the screen below) may be the best bet but make sure you'll be able to install the required flash components at the remote site without creating a big IT hassle!*

When selecting WMV all audio values and encoding parameters are set automatically, leaving less to worry about.



Now set the audio/video quality for your production by using the existing profiles for the Windows Media (WMV) format as shown here:



Use the “best quality and file size” option to render at the same size you recorded with optimal audio/video compression. This achieves the best balance between quality and file size available.

Now simply give the name of the WMV file you’d like and Camtasia will do the rest. After the production is complete your video will start up in Windows Media Player for your final review.

## **Iterate, Repeat and Improve**

If you're like me you'll keep experimenting and making tweaks to your recording setup – after all there's no better way to zero in on what really works best for you. As you find your comfort zone with Camtasia I find it helpful to keep these things in mind:

**A good video simply conveys the content.** Or put another way if you teach well the video will help you teach but if you don't teach well the video won't hide that fact.

**Spend time on getting your exercises and example tight.** Then the video will take care of itself.

**Don't stress about perfection.** You're going to have some mis-speaks and glitches but nobody expects perfection in a training video! Just be yourself and you'll do fine.

**Target the audience.** Create videos that are appropriate for your user's needs – nothing more and nothing less.

As you work at it more it'll become natural and you won't even remember that you're being recorded!

## **Keep At It!**

I realize that creating training videos is new for many of you and may not seem comfortable at first but I highly recommend that you try it out. Video based training is rapidly becoming the default training mode in the coming years anyway so why not get acquainted with the concepts now?

So go ahead and download the trial software and give it a try. You may find out that you like the process and can add it to your bag of CAD management tricks faster than you think.

## **Updated Materials and PowerPoints**

You can download updated course handouts (with any additional notes or corrections) for all my presentations at my web site [www.CAD-Manager.com](http://www.CAD-Manager.com) on the **AU014** page immediately after AU concludes. You can find a wide range of information on customization, programming and CAD management elsewhere on my web site.

I will send you a PDF copy of the session PowerPoint presentation if you request it. Just send an email to me at [rgreen@cad-manager.com](mailto:rgreen@cad-manager.com) and be sure to put the course title in the subject line of your message so I'll know which class you want.