



## **Authoring for Synchronizers**

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You are making discs to use in a multi-channel installation and you want to make sure they will work with the synchronizer. What do you do? There are many different ways to make a disc that is compatible with the synchronizers. Which method is best for you?

### **Introduction**

First, there is a basic decision to make. Do you make a separate disc for each channel, which contains only that channel, and program all the synchronizer channels the same. Or do you make one disc that contains all of the channels, either on different titles or different chapters, and then simply have several copies of the same disc made for the different players. And then program the synchronizer so that each channel plays a different part of the disc.

This basic difference in overall structure is often made for financial reasons. Some people have cheap or free access to a video editing system that lets them place all channels on one large tape. They then have an authoring house digitize the tape and make a disc from it. Then they simply order several extra copies of the disc. This, in some cases, can save money. But not always. Sometimes it's just as cheap, or cheaper, to give them a separate tape per channel and simply have them make one disc per channel. Which basic method you choose will affect the final form of the discs you make.

### **Starting and Ending**

To make discs that work with the synchronizers you must have a specific starting and ending point that can be programmed into the synchronizer. The ending point must be different than the starting point, and must exist in a form that can be used by the synchronizer. Some authoring programs are not able to place chapter marks where you want them, and some are not able to enable frame searches. Which structure you choose will be guided by what is possible with the authoring software you use. In general, the more expensive the authoring software, the more features that you have to choose from.

Some of the common ways to set up a single channel on a disc for synchronizing include:

- Two chapters within a single title. One chapter holds the program and the other is an end mark
- One chapter in a single title, with a specific frame number used as the ending mark
- Two titles. One for the program, and one as an ending mark
- End on a Chapter

The method we recommend, and the method that the synchronizers are programmed for by default when they ship out of here is to place the program material that you want to play on the first chapter of the first title of the disc and then place an extra chapter after that with 5 seconds of black. This is fairly easy in most authoring programs, though is not possible on some of the cheapest programs.

You should add the extra 5 seconds of black at the end of the normal video material using your video editing software. Most low cost authoring programs either allow only one video clip per title, or will not create a disc that is useable for the synchronizer if you try to combine multiple video clips into a single title in the authoring program.

You add the extra 5 seconds of black in the video editing program, and then you place a chapter mark in the DVD authoring program at the point where the main video ends and the 5 seconds of black begins. This chapter mark will be seen as chapter 2 by the player. You can now set the synchronizer to start at chapter 1 and end on chapter 2.

### **End on a Frame**

If the authoring software you are using does not allow adding chapter marks, then you are limited to the other possible ending marks. One of those is using frame numbers to mark the end point in the synchronizer. This is only going to work if the authoring software enables frame searches. Most high end programs allow this, and some of the low end ones do also. But some of the low end programs do not. If using low end software, you may need to burn a disc and test it in the players to see if you can search to a frame number.

Assuming that your software does allow frame searches, we still recommend adding 5 seconds of black at the end of the video clip in your video editing software, before importing it into the authoring software. Then you can locate a frame at the point where the main video ends and the black begins and program that frame number into the synchronizer as the ending mark.

### **End on a Title**

If your authoring software does not allow chapter marks, and does not allow frame searches on the disc, then your only option left is to add an extra title to use as the ending mark. Most authoring programs allow you to add an extra video clip as a second title on the disc. We suggest simply adding a clip containing 5 or more seconds of black video as the second title. Then when programming the synchronizer you set the ending mode as Title and select title 2 as the ending mark.

### **Multiple Chapters**

If you want to place several channels on the same disc, and simply make multiple copies of the same disc for the different players, one way is to place all the video channels in one clip, one after the other, and an extra 5 seconds of black at the end. Then when authoring the DVD you place chapter marks at the start of each channel, and at the start of the final 5 seconds of black. So if you have 4 channels of

video then the disc contains 5 chapters. The first 4 contain the four channels and the fifth contains the 5 seconds of black.

This allows the synchronizer to be set with the first channel starting at chapter 1 and ending at chapter 2. The next channel is set to start at chapter 2 and end at chapter 3. The next is set for chapter 3 to chapter 4, and the last one is set as chapter 4 to chapter 5..That final 5th chapter of black is needed so that you have some way to mark the end of the fourth channel.

## **Multiple Titles**

The same basic method can be used with multiple titles. You would create 5 titles for a 4 channel disc. The first four titles would contain the 4 channels of video, and the fifth title would contain the five seconds of black. The synchronizer would be programmed to start at title 1 and end at title 2. Then channel 2 would start at title 2, end at title 3. The third would start at title 3, end at title 4. And the fourth would start at title 4 and end at title 5 (the black video).

## **Multiple Titles Version 2**

Another way to use multiple titles would be to set up one title per channel, with each title containing 2 chapters. The initial chapter of each title contains the video material, and the second chapter of each title contains 5 seconds of black. Then the synchronizer is set up so that channel one starts at title 1 chapter 1 and ends at chapter 2. The next channel starts at title 2 chapter 1 and ends at chapter 2. Each of the channels start with chapter 1 of a given title, and end at chapter 2 of that title.

## **One Final Note**

Instead of using 5 seconds of black video as the ending of the titles or chapters, as outlined above, it is also possible to edit a still image into a 5 second section at the end of the video clips and use the "Squelch" feature of the synchronizer to hold that image during rewind of the synchronizer. This lets you hold an image, such as a logo, during rewind rather than switch to the background color of the player. It is VERY important, if you do this, that the image be turned into a 5 second piece of video in the video editing program when your video clip is created. It CAN NOT be done using a DVD authoring still frame. If you do it in the authoring then it will interfere with the synchronizer and cause errors. It will probably prevent the synchronizer from working at all.

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