

GENERAL NOTES ON AUTHORIZING DVD DISCS

[Please read the following before authoring a DVD Disc]

Introduction:

What follows is a general discussion on what is required of a DVD that is intended for use in a Pioneer Industrial DVD Player DVD-V7400, 5000, 8000) in conjunction with a Museum Technology DVD-204 or DVD-212 Controller. It is well to keep in mind that the "logic" must reside somewhere. Frequently it is authored onto the DVD, allowing the DVD to be navigated using the common handheld remote control that comes with all players. The information on the disc will tell the player what to do when the disc is inserted in the player, generally taking it to a menu, from which selections may be made using the up and down buttons on the remote. The second place the logic may call home is in an external control unit or computer. This is the case when using DVD-204 or DVD-212 Controllers All the instructions and commands are resident in the Controller, and are issued to the player in response to a button being pushed. This makes preparing the DVD a simple matter, in that no authoring (aside from placing chapters, if used) is required. The Controller is responsible for spinning the disc up, playing the attract loop (if there is one) and, of course, playing the selection requested when a controller button is pressed.

Commands authored on a DVD can cause contention with the commands being issued by the controller. To prevent this, avoid authoring commands such as loop or goto. Menu screens are also to be avoided.

ADDRESSING MODES

The DVD-204 /212 support two ways of addressing the DVD disc: by frames, or by chapters. Each has its advantages and disadvantages. **Frame Number** is the most versatile in that any pair of frame numbers may be used to define a selection. When used with the older Pioneer 7200 Player the disadvantage is slow seek time. This is not an issue with the current Pioneer 7400 model, which has significantly improved seek speed. **Chapter** search is preferred if the disc is to be changed or updated frequently. Once the DVD-204 or DVD-212 is set up to play Chapters, the pushbuttons will always play the same chapter number. For example, if Button 1 is set to play Chapter 1, it will always do just that. Hence the length of the content does not affect the operation of the system

AUTHORIZING DVD DISCS

Based on our experience, the best way to author a disc is to simply lay down the video **within a single title** (this system cannot accommodate multiple titles) and with frame numbers. For the DVD to work in Frame mode, the "Search by Time" function in the authoring software must be enabled. Many authoring systems (such as DVD Studio Pro) have the default setting as "disabled". This is extremely important, for unless Search by Time is turned on, the resultant DVD won't work. This can be quite vexing in that the Pioneer DVD player will display Frame numbers, while at the same time ignoring frame search commands. If DVD Studio Pro is being used, the following settings should be made:

In the MENU > under USER OPERATIONS > in the PLAYBACK CONTROL Dialog Box: make sure Time/PTT Search and Time Search/Time Play are both enabled. And, as a general rule, program using "First Play".

If Chapters Are To Be Used: We recommend that a "dummy" chapter of five seconds of black be placed between the "real" chapters of video material. An additional "dummy" chapter of five seconds of black should also be placed at the end, after the last "real" chapter of video. In other words, chapter 1 would be program material, chapter 2 would be five seconds of black, chapter 3 would be program material, chapter 4 would be five seconds of black, etc.

These chapters of black address the particulars of the Pioneer DVD protocol for defining a chapter. The player is not configured to recognize "play chapter 4." Instead it recognizes: "play chapter 4 to the start of chapter 5." A problem can arise because the player does not actually stop until the first frame of chapter 5. That first frame of chapter 5 is stored in the player's video memory, where it is held in a freeze frame while the player searches out its next instruction. As a result, the first frame of the new chapter will be on display for a fraction of a second, appearing as a flash frame. . By placing a chapter of black between the active program chapters, you are assured that the player's video memory will store -- and display -- a frame of black. Similarly, the five seconds of black after the last chapter are necessary to provide a closing reference point for the last segment on the disc. There always has to be one more chapter than will actually be used. This is important: lack of the end chapter will prevent playing the last intended chapter.

Summary:

There are four things to keep in mind:

- For Frame Search to work, the Search-by-Time function must be enabled**
- For Chapter Search to work, there must be one additional chapter at the end**
- Do not author commands onto the disc; this is the job of the controller**
- All video must be in a single title, title 1**

New DVD authoring ("mastering") systems continue to come onto the market. Each has its own unique properties. Make sure, however, that the system employed is capable of meeting the above requirements.

Rev March 2008
Rev November 23 2004
MPC Revised February 2004
Prior Revision August 2001