Tech Talk

USING CLV VIDEODISCS INTERACTIVELY

Harold H. Hendricks
Brigham Young University

As anyone who begins to work with interactive videodiscs soon discovers, there are two videodisc formats: CAV, which stands for Constant Angular Velocity, and CLV, which means Constant Linear Velocity. In simple terms, the difference between the two formats is that CAV stores the data in up to 54,000 concentric circles while CLV is stored in a spiral, exactly like a phonograph record. Because the data in each CAV circle represents precisely two video frames (this is why some freeze frames flicker), the laser disc player can seek to any one of the frames and either begin playing or hold the frame indefinitely as a still picture on the screen. The amount of motion video is limited to about 30 minutes on each side of a CAV disc because each circle, while holding the same amount of data, must take up an ever increasing amount of space the nearer the outside edge. The CLV or Extended Play format doubles the amount of motion video that can be stored on a disc due to the sequential placement of the frames along the spiral track. Until recently, the major disadvantage of CLV discs for interactive applications was that still frames could not be displayed on the screen. This disadvantage is now overcome in some of the newer players by the inclusion of a memory buffer which holds the selected frame image on the screen.

To use a CLV disc interactively requires the same basic procedures as using a CAV disc, with some modifications. First of all, to search to a location on a CLV disc enter the minutes and seconds instead of a frame number. (The Pioneer 8000 allows both time and frame number while early model players may only allow searching by whole minutes.) Search times in CLV mode are much longer than in CAV mode, so you will need to consider this in your application. If you are working with a computer tutorial, for example, you can diminish this time by presetting the player to your next selection or to a "waiting" area close to the selections you will be using while the student is looking at a computer screen. Ending the video sequence will depend on the particular player you are using. Some players will allow you to enter the ending time and a

Harold Hendricks is Manager of the Humanities Learning Resource Center at Brigham Young University, Provo, Utah.

pause command at which point the player will revert to the neutral screen. Other players and some authoring systems, however, may need a timer program to indicate completion. In this case figure the elapsed time and add the search time if needed.

There is a wealth of material available in the CLV format waiting to be repurposed. For example, we have created tutorials in ballet and opera for humanities classes using readily available videodiscs. Other tutorials in theater could easily be made. We have also annotated a full-length Italian motion-picture wherein the student may listen to each line of dialogue, starting and stopping with almost the same precision as a CAV disc. So if you can't create your own CAV disc you may be able to find suitable material in the ever increasing offering of cultural and foreign language titles in CLV format. (Performance rights clearances should always be obtained.)