

Video CD 2.0 Toolkit

Open up the possibilities of Video CD 2.0 with Video CD 2.0 Toolkit. You can expand your activities by offering your customers the extended interaction capacities of Video CD 2.0. In the graphical user interface of Video CD 2.0 Toolkit, you can create applications ranging from a linear music video title to interactive video catalogs, all in the popular Video CD format. The Toolkit integrates all the tools you need to author and build Video CD 2.0

applications like interactive training, information kiosks and feature films. You can produce a point of sale Video CD title with multi-level menu structures and hotspot interaction which you can even display on a touchscreen monitor. Video CD 2.0 Toolkit offers a set of conversion and encoding tools surrounded by a user-friendly graphical userinterface to allow you to focus on what really matters: exploiting the capacities of Video CD 2.0.

- Graphical userinterface with drag and drop
- Integrated MPEG still conversion and multiplexing
- Integrated disc building
- Automatic generation of Video CD 2.0 system files, no programming skills required
- Compatible with wide range of audio and image file types
- Support of Video CD 2.0 extended PSD option



Video CD uses the Compact Disc Medium to play full screen motion video and still pictures associated with high-quality sound. The pictures, motion video and sound are coded according to the MPEG standard ISO 11172.

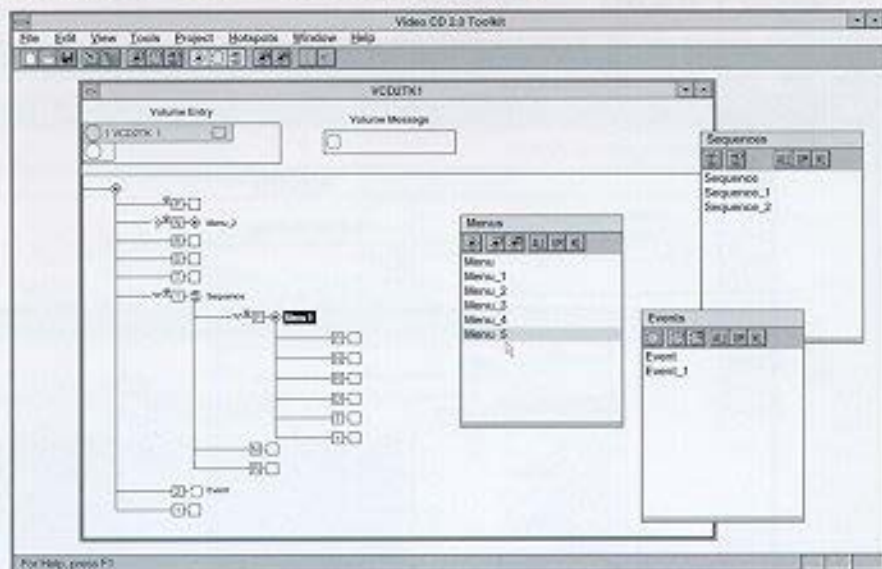
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Video CD 2.0 Toolkit

Video CD 2.0 Toolkit is an authoring tool for Windows 3.1 PC that creates Video CD titles compliant with the White Book 2.0 specification. Video CD 2.0 Toolkit offers a simple interface where the user specifies the content and playback structure. All of the detail work required to comply with the White Book 2.0 is performed automatically by this tool.



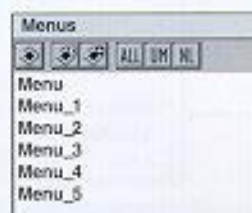
Menu example

This tool is designed for professional developers who want to control all aspects of playback. The structure definition window allows the user to easily see all aspects of navigation at a glance. The user can hide or show a detailed navigational path from any component in the structure. In addition, the user may select to have the structure window reflect the structure starting from any component, so the user can focus on any particular part of the structure.

Authoring Process

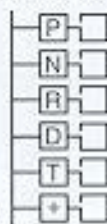
The authoring tool is designed so that the entire title structure can be defined before actual assets are available. The developer can create every component and give them descriptive names. By using descriptive titles for components, the developer makes the definition of user-navigation easier. In addition, the task of associating components with assets is easier and less prone to error. Components that are used in the structure can be:

Menu: A menu can contain an image and an audio file. The developer can define hotspots which are used by CD-i players and other pointing device playback platforms. The hot spots allow the developer to choose navigation options for any type of branch, including numeric selection items. The developer can also

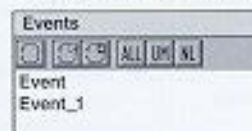


select the number of times the menu sequence loops. Navigation options are selected by VCD player remote control keys or hotspot selection on CD-i players. Control options for menus include:

- Previous selection
- Next selection
- Return selection
- Default selection
- Timeout selection
- Numeric selections



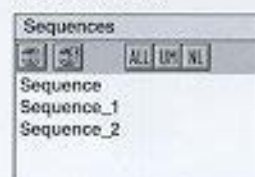
Events: This type of component allows play of the component and then return the user to the menu which branched to it. All actions such as Next, Previous and Return



will return the application to the calling menu. The developer does not need to define the action for Next, Previous, and Return.

Sequences: The developer can list a series of playback items that will be played in sequence. The developer can define actions for Next, Previous, and

Return input. In addition the developer can specify additional pause times between items in the list.



The developer defines the navigation path and user playback experience. Structure definition is simple and uses drag and drop technology to speed up the creation process. When the structure is defined, the building process automatically converts still images to MPEG still format, sectorizes MPEG files and converts audio files to the CD-DA format, used in audio CD's. After conversions and preparations, the required Video CD 2.0 structure files are created and then combined with the assets to make the final disc image.

The developer specifies the assets to be used in the Video CD title. Media types can include the following:

- still images (either high or low resolution)
- MPEG video and audio streams with multiple data rate options
- MPEG audio
- MPEG video
- Audio files (44.1 khz) in WAVE, AIFF, PCM or Microsound format

One click on a button generates the disc image, which can then be recorded on a WORM for testing or submission to a CD replication facility. Developers with CD-i emulating technology can test playback directly from the disc image before recording.

White Book 2.0 - Video CD Standard

This specification is the third in a series that defines standardized MPEG playback from a CD. White Book 1.0 defined Karaoke CD. White Book 1.1 further advanced the standard and was aimed at delivery of single or multiple track MPEG playback from a CD. Additions include definition of chapter start points within an

MPEG track and the identification of albums and volumes. White Book 2.0 has further advanced the standard as a collaborative effort between JVC, Sony, Matsushita, and Philips along with input from other industry leaders, taking the best from the two earlier versions and adding more data types along with standardizing definitions for cross platform playback with the same interface presented to all users. Now Video CD titles can be played on any device which complies with the standard. Among those devices are dedicated Video 2.0 CD players, CD-i players with MPEG playback decoders and personal computers with MPEG playback functionality and a program that understands the Video CD data and interactivity standards. Users can now create titles which have a broad range of playback possibilities.


CD-i Playback Engine

The White Book specifications require that a CD-i program be included to allow the title to be played on CD-i players with MPEG decoder devices. This ensures a wider audience for the title. Video CD 2.0 Toolkit includes a limited distribution license for a CD-i playback program. This allows the user to make up to 500 copies of the title without additional licensing fees. For users who need to make more than 500 copies of a title, other licensing plans are available. The CD-i playback program allows the user to include closed caption files with multiple languages for any MPEG track. Since this is a function of the CD-i application, these closed caption files will only be displayed on CD-i players.

On-screen controls (Video CD on CD-i release 4.1)

- To activate any on-screen button, move your cursor over the control.
- Press action button 1(*) to activate the indicated function;
- To display or remove the on-screen control bar, press action button 2 (**).

Pause
Fast Reverse
Fast Forward
Options
Play
Previous
Next
Stop



Pause: Pause the current sequence and go to the slow motion control bar

Fast Forward/Reverse: Go to options control bar

Options: Go to options control bar


Play: Take default selection

Previous: Go to previous menu or video

Next: Go to next menu or video

Stop: Go back to previous menu

Continue
Step Reverse
Step Forward
Slow Motion
Play
Previous
Next
Stop



Continue: Resume playing the current sequence and return to the Main control bar

Step Forward/Reverse: Go to options control bar

Slow motion: Go to options control bar


Play: Take default selection

Previous: Go to previous menu or video

Next: Go to next menu or video

Stop: Go back to previous menu

1
2
3
4
5
6
7
8
9
0
Play
Previous
Next
Stop



1-9: To select a menu item by number


Play: Take default selection

Previous: Go to previous menu or video

Next: Go to next menu or video

Stop: Go back to previous menu

Settings
Play
Resume
Exit



Settings: Position video screen, audio/language setting

Play: Start playing from the begin

Resume: Resume playing the last sequence

Exit: Ends the application

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System Requirements

Hardware

- min. 16 inch monitor, 256 colors
- min. 486 IBM PC compatible with 16 MB RAM
- 2 GB hard drive. During the process of building a disc image, hundreds of millions of bytes are processed. For one project, content files may be 700 MB and the final disc image can also be 700 MB. Therefore, we recommend a minimum of 2 GB of disk storage.
- CD recorder

Software

- Windows 3.1.
- Video CD 2.0 Toolkit

This includes:

- CD with toolkit.
In addition this disc contains some demo projects, MPEG samples and menu screens
- Manual in binder, with separate chapters for:
Video-CD 2.0 toolkit
CD-i application for Video-CD version 4.1
- Disc burning software
- Sample Video-CD 2.0 disc
- License conditions and registration form

Related Services

A one day hands-on training course for Video CD 2.0 Toolkit is available. Course includes an explanation of the Video CD 2.0 standard, and a number of guided sample projects to familiarize attendants with all features of Video CD 2.0 Toolkit.

TECHNICAL SPECIFICATIONS VIDEO CD 2.0

FILE SYSTEM

ISO 9660, CD-ROM-XA
CD Bridge format
Mode 2 (form 1/ form 2)

MPEG SEQUENCES

ISO 11172 streams
Sector format conform Green Book chapter IX
Audio/Video sector interleaving

VIDEO

MPEG encoding	MPEG 1
Picture size/rate:	
NTSC	352x240/29.97 Hz
PAL	352x288/25 Hz
FLM	352x240/23.976 Hz
Aspect ratio:	
NTSC	1.0950
PAL	0.9157
Pixel clock	13.5 MHz
Video stream bitrate	1.152 Mbit/sec

AUDIO

MPEG encoding	Layer 2
Sampling frequency	44.1 kHz
Emphasis	Off or 50/15 usec
Mode	Stereo Dual Channel Intensity stereo
Audio stream bitrate	224 Kbit/sec

MPEG STILLS

Interleaved normal and high res. stills
Audio/Video sector interleaving

STILLS

Normal resolution:	
NTSC	352x240
PAL	352x288
max. size	46 Kbyte
High resolution:	
NTSC	704x480
PAL	704x576
max. size	224 Kbyte

AUDIO

MPEG encoding	Layer 2
Sampling frequency	44.1 kHz
Emphasis	Off or 50/15 usec
Mode	Stereo Single Channel Dual Channel Intensity stereo
Audio stream bitrate:	
Stereo/Dual channel	128, 192, 224 or 384 Kbit/s
Single Channel	64, 96, 192 Kbit/s

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