

**VIDEO CD ON CD-i
Release 4.0**

**PRODUCT INFORMATION AND
INSTALLATION NOTES**

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Manual objectives	This document describes an application program to play a Video-CD on CD-i. It tells how the application should be used by the content provider, how it can be configured and customized, and what it offers for the end user. It is strongly recommended to read the entire manual before usage of the software.
Intended Audience	This manual is intended for content providers who want to use this application as the CD-i program which must, according to the "Video-CD standard, version 2.0, July 1994", be present on a Video-CD. Knowledge of the mentioned Video-CD standard is assumed, as well as basic knowledge of Digital Video according to the MPEG-1 standard, and of the CD-i Full Functional Specification.
Structure of manual	Chapter 1 gives a brief description, including the features of the "Video-CD on CD-i" application. Chapter 2 gives an overview of the functionality and explains how the functions must be used. Chapter 3 describes the installation procedure. Chapter 4 indicates how the behaviour of the software can be configured.
Problem reporting & Change requests	If you find undocumented bugs or encounter problems in using the "Video-CD on CD-i" software, or if you would like to propose changes in the product, please use the form given at the end of this document. Return to your supplier or directly to: Philips Consumer Electronics B.V. Interactive Media Systems Mr. G. Smelt Building SFH-6 P.O. Box 80002 5600 JB Eindhoven The Netherlands

Video-CD

Video-CD is a compact disc format for low-interactive programs featuring Digital Video based upon the MPEG-1 (Moving Pictures Expert Group) standard. It allows programs like music clips, live-concerts, linear published by Philips Consumer Electronics B.V. and has been prepared in close cooperation with Matsushita Electrical Industrial Co., Sony Corporation and Victor Company of Japan. The standard, laid down in the document "Video CD Specification, Version 2.0" ensures that any Video-CD plays on dedicated Video-CD players, CD-i players and other systems that conform to this standard.

Video-CD on CD-i

To allow the play of Video-CD's on a CD-i player, the Video-CD standard requires that a CD-i application program must be present. Philips Consumer Electronics has designed such a 'Video-CD on CD-i' application program. The program is designed to:

- Provide full play back control as defined in the PSD of the standard
- be extremely simple to use and easy-to-learn for the end-user

The program has been designed for Video CD 2.0 discs that contain a PSD file for play back control. For Video CD 2.0 discs without a PSD file a different program is provided by Philips.

The program runs on CD-i players equipped with the CDRTOS 1.1(.1) operating system and a Digital Video extension cartridge.

General Features

- NTSC / PAL compatible
- full PSD playback control
- slow motion / freeze frame
- fast forward / reverse
- stereo / multichannel audio
- centring of Digital Video window
- Scene number indication (PSD list id)
- time code (& frame) indication
- Continue from last scene

Play controls

- pause/continue
- fast scan forward (multispeed)
- fast scan reverse (multispeed)
- slow motion
- single step forward
- step reverse
- play (as in VCD 2.0 standard)
- stop (as in VCD 2.0 standard)
- next (as in VCD 2.0 standard)
- previous (as in VCD 2.0 standard)

General

- When the application is started it starts playing the first item in the PSD. The play control bar will appear on the bottom of the screen. There are two control bars, one with numeric items for selection lists and one with scan control functions for play lists. Normally there is no need for the user to manually change between the two control bars or remove the control bar, however the control bars can be toggled by pressing action button 2.
- When the control bar is displayed, sequence information is shown at the top of the screen. The current list id number (scene) is shown. When appropriate the time-code (& frames) of the item that is playing is shown.
- Each engine delivered contains a unique serial number. This can be made visible only at the display of the engine's copyright screen when exiting the application: Press the STOP button of the CD-i's Remote Control, subsequently press one of the action buttons.

IN THE FOLLOWING SECTIONS REFERENCE IS MADE TO THE DEDICATED BUTTONS OF A POINTER DEVICE. NOTE THAT CORRESPONDING BUTTONS ON THE PLAYER ITSELF HAVE THE SAME EFFECT!

Control bar during play

- **FAST FORWARD:** fast forward scan in the sequence. The fast forward accelerates to a higher speed. If the button is pressed for less than one second then the system remains in fast forward mode until another action button is pressed. If the action button is held down for more than one second then the FAST FORWARD remains active only while the button is held down.
- **FAST REVERSE:** fast reverse scan in the sequence. This function works in the same way as the FAST FORWARD function.
- **PAUSE button control bar/PAUSE button pointer device:** pause an ongoing play of an A/V sequence, or, if already in the pause state, continue normal play. Within the PAUSE mode slow motion and step functions are available and thus a different control bar is displayed.
- **STEP FORWARD:** The sequence steps frame by frame while the button is held down. When the button is released the system returns to the PAUSE mode.
- **STEP REVERSE:** The sequence step backwards in small steps (about 1 second) while the button is held down. When the button is released the system returns to PAUSE mode.
- **OPTIONS:** When this button is selected the engine stops interpreting the PSD and goes to the OPTIONS screen which allows the user to set various settings, start the disc again or exit the application.
- **SLOW:** When the slow button is selected the sequence is played in slow motion.
- **PLAY:** button control bar/PLAY button pointer device: Performs the default selection item of the selection list as specified in the Video CD 2.0 standard.
- **PREVIOUS button pointer device/PREVIOUS-button control bar:** Performs the next item in the PSD as specified in the Video CD 2.0 standard.
- **NEXT button pointer device/NEXT-button control bar:** play next sequence. Performs the next item in the PSD as specified in the Video CD 2.0 standard.
- **STOP button pointer device/STOP-button control bar:** Performs the return item in the PSD as specified in the Video CD 2.0 standard.

Options Screen

At run-time, the end user can call the options screen, which allows the following options:

- Settings: goes to settings screen where the user can set a number of options for the engine.
- Play: Starts playing the disc from the beginning of the PSD.
- Resume: resumes the playing of the disc from the PSD entry that was last played
- Exit: Exits the application

Settings Screen

- The settings screen allows the user to position the video on the screen and to select the audio channel in the case of dual channel audio.
- Audio channel 1/2: select whether the AV sequences are played with the audio from channel 1 or channel 2 (dual channel mode only).

Though the engine tries to centre the DV-window on the screen, it might happen that for some television-sets an adjustment of the DV-window position is needed. For the adjustment procedure, a DV-sequence is played (and repeated if necessary). The first sequence of the disc is used, unless another sequence is defined by the content provider. The image is overlaid by control buttons for the position adjustment:

- UP-button: move the DV-window slowly upwards. If the pointer device's action button is kept pushed down the move accelerates.
- DOWN-button: move the DV-window slowly downwards. If the pointer device's action button is kept pushed down the move accelerates.
- LEFT-button: move the DV-window slowly to the left. If the pointer device's action button is kept pushed down the move accelerates.
- RIGHT-button: move the DV-window slowly to the right. If the pointer device's action button is kept pushed down the move accelerates.
- OK button: return to the options screen.

A proposal for a user manual to be supplied with the disc is given as appendix.

Deliverables

- Executable main program: CDI_VCD.APP;1
- Real-time file: CDI_IMAG.RTF;
- Close caption font: CDI_CC.FNT;1

Installation

These files must be installed in the CDI directory of the Video-CD.

To start the application, execute CDI/CDI_VCD.APP;1. Note that this program name should be included in the Primary Volume Descriptor as the application identifier.

Introduction

The engine works perfectly well when used 'as is'. However, the behaviour of the engine can be adapted by the content provider. You can adapt the colour of the cursor, determine whether or not the bumper is interruptible, and when, determine what happens after some time of user inactivity and lots more.

Configuration

The content-provider has the option to configure the VCD application. Therefore, he has to create the configuration file `CDI_VCD.CFG;1`. This is an ASCII file, which can be created by any text editor. The configuration file must be placed in the CDI directory.

Every line of `CDI_VCD.CFG;1` should start with a predefined keyword, which is an abbreviation for the parameter it defines. After the keyword, the parameter value is defined, preceded by the = sign.

In keywords and values, lowercase and uppercase characters are treated equal.

If `CDI_VCD.CFG;1` is absent, the parameters are set to default values as given below.

Configuration parametersCursor colour

Defines the colour of the pointer cursor. As the default colour is red, it might be difficult to track the cursor when menu-screens have a lot of red colours. This parameter allows you to change the cursor colour.

Default value: RED

Keyword: CURCOL

Value set: WHITE, LOWWHITE, RED, LOWRED, BLUE, LOWBLUE, GREEN, LOWGREEN, YELLOW, LOWYELLOW, BLACK, LOWBLACK, CYAN, LOWCYAN, MAGENTA, LOWMAGENTA

Example: CURCOL=GREEN

Track for Centring DV window

Defines which DV-track from the disc must be used for the user operated centring of the DV window. Normally the first DV-track is used. But if the track is very short, or if it contains a lot of black, it may be difficult to centre, as the screen borders are also black. This configuration parameter allows the selection of an other track for centring.

Default value: 1

Keyword: CENTRTRACK

Value set: 1 - (max tracknumber)

Example: CENTRTRACK=3

Known bugs

The following bugs are known to exist in some versions of the CD-i DV cartridges. Most of these problems are already corrected in the current version of CD-i DV cartridge:

The following shortcomings are known in the application program:

To avoid differences in information and the way it is presented in the printed matter a checklist and examples are provided.

Video-CD disc label requirements

To have a good recognition by the user of the type of disc, it should contain the correct identification. The following data should be on the disc:

- The Compact disc Digital Video logo.
- Name of the disc.
- Publishers name/logo.
- Volume/album number.
- Reference/order number.
- Copyright holder name and date.
- All rights reserved with copy/reproduction notice.
- Made in statement.
- If applicable censorship rating.

Video-CD packaging requirements

To have a good recognition by the user of the type of disc at point of purchase, the following data should be present on the front:

- The Compact disc Digital Video logo.
- Name of the disc.

The rear side of the packaging should contain:

- Compatibility text
- PAL TV logo with text “plays also on NTSC TV” or NTSC TV logo with text “plays also on PAL TV” (depending on optimization, TV logo should represent the optimised format)
- Title related information
- Publishers name/logo.
- Reference/order number.
- Copyright holder name and date.
- All rights reserved with copy/reproduction notice.
- Made in statement.
- Playing time
- If applicable the following indications:
 - Censorship rating/minimum age
 - Wide screen
 - Dolby Surround sound
 - Subtitling information with languages
 - Multilingual or background/foreground vocal (for Karaoke).
 - Number of volumes in the album
- Discs intended for resale need also an EAN or UPC.

The spine (two small sides of the CD packaging) should contain:

- Name of the disc.
 - The text "Video CD".
 - Reference/order number.
-

The following pages give an example of an inlay card, disc label and user guide to be included with a disc.

VIDEO-CD ON CD-I ENGINE 4.0	Date received
Change and Problem Report	Report Number:

General Information

Name:
Address:
Telephone:
Fax:
Serial Number:
Date:

Change / Problem Description

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Change / Problem Response

Approved / Study / Rejected	
Status:	Date:
Priority:	