CD and DVD Covers in ConTeXt

Abstract
Production of CD and DVD covers in several variations using ConTeXt.

Keywords
CD, DVD, jewelcase

Introduction

In the fall of 2005 there appeared in the NTG MAPS an article by Dennis van Dok about his code for typesetting a jewelcase cover[1]. This article has inspired me to both adapt it to ConTeXt and elaborate on it, for which he kindly gave his permission. The result is the `hvdm-cas` module that can typeset covers for CDs, DVDs and jewelcase boxes. These covers can be customized in a great number of ways.

Typesetting covers

The setup of the parameters governing the production of covers is effected with macro `\setupcds[.1.]` The settable parameters will be presented gradually in the text and are summarized in table 1. One can print their values in the log by calling macro `\showcdcaseparameters`.

The sole macro for the production of covers is `\startcase..\stopcase`. It is used as follows:

```
\startcase[.1.][.2.]
  <contents of left page>
  \page
  <contents of right page>
\stopcase
```

The optional parameters in `[.1.]` are applied to both the left and right page of the cover. In addition the parameters in `[.2.]` enable one to override these in the right page. Those parameters are the same as for `\setupcds`. The `\page` separates the left and righthand page; its presence its mandatory, even where the right page has no content as is the case for the backside of the jewelcase.

Types of covers

There are four types of covers, three for CDs and one for DVDs. Selection of `[type=cd]` produces the top

of figure 1. This one can be folded over and placed inside the front of a jewelcase. Another possibility is to fold the cover, put a CD or DVD into it and store that in one of those cheap transparent plastic sleeves. In the middle is the jewelcase cover with `[type=jewel]` having left and right extensions. At the bottom is a very thin cover made by `[type=slim]`, to be used with very small CD-cases. These are only about 3.8mm thick and have limited space for a title on the spine, which extends a bit to the left side.

Figure 1.   Cover types for CD

Covers for DVDs are produced with `[type=dvd]`. On the top of figure 2 stands the usual DVD case with a spine of 14mm (`[spine=big]`). Those with a lot of DVDs might prefer the smaller variant, having a spine of only 7mm (`[spine=small]`). One can store twice as many of the latter in the same space. The width

of the spine can also be chosen at will by specifying a dimension; for example [spine=8mm]. This also works for the CD-types.
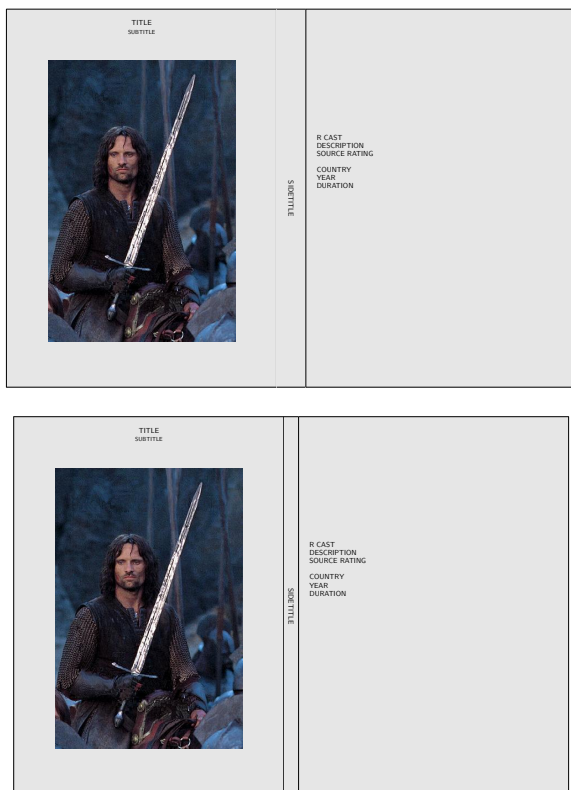

Figure 2.   Cover types for DVD

Figure 3.   Final printable CD cover

Output states

The printable versions of CD and DVD covers ([state=final]) are rotated by 90 degrees in order to fit them on the paper as is shown in figure 3. The paper is layed out in portrait format and the cover centered on it. Note that [cutmarks=color] has been used here; it is taken straight from \setuplayout (values are off, on, color). The other state value [state=draft] will put the cover in landscape format in the same orientation as in figures 1 and 2. That way the text is easier to read, of course. Additionally the frame lines can be given another color in draft mode, preferably one that is well visible.

Printing also requires a setup of the papersize. This is effected by setting parameter [output=page], which is the default. The other value is [output=box]. Choosing box suppresses the output and leaves the result available in a TEX box register. Calling \getcdcase copies the contents of this box into the running input stream. Putting that box in standard
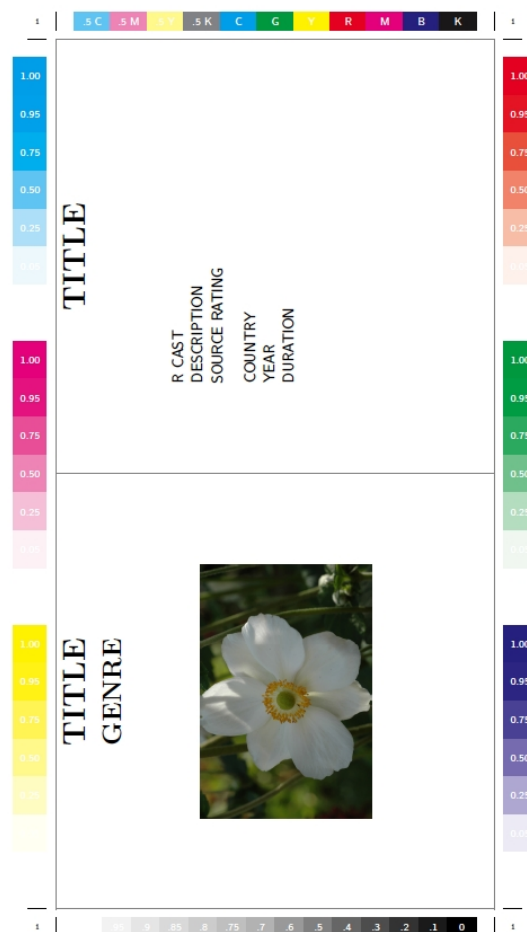
ConTEXt macros like scale and rotate enables one to manipulate it further; in fact the illustrations in this article have been made that way.

Positioning of contents

Two parameters govern the size of the contents area on the coverpages. These are offset and margin, parameters that take a dimension as their value. With an offset of zero the contents is placed tightly within the enclosing frame, as can be seen in the top of figure 4. A positive offset shrinks the inner frame on all sides by that amount; its effect is shown in the left page of the bottom illustration. On the right side a positive margin has been added, narrowing the typing area and enlarging the margins left and right. As might be expected, a negative value will enlarge the typing space by diminishing the respective margin.[2]
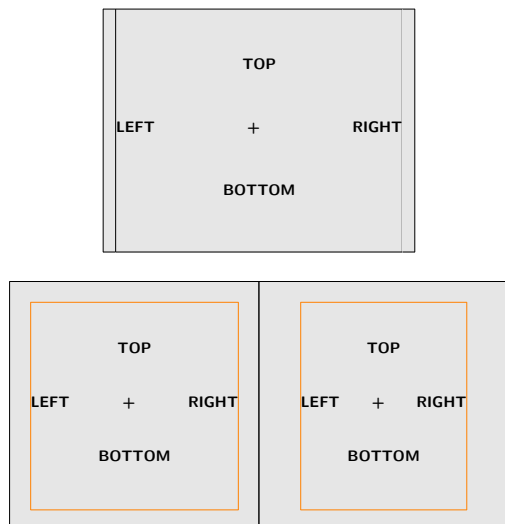
Figure 4. Offset and margin parameters

The contents can be positioned vertically with [location=middle] (the default), top, bottom or none. Figure 5 illustrates the middle and top placement. Likewise the sidetitle has its vertical position governed by sidelocation, having the same set of values; figure 5 shows the top option whereas figure 2 has the sidetitle in the middle.
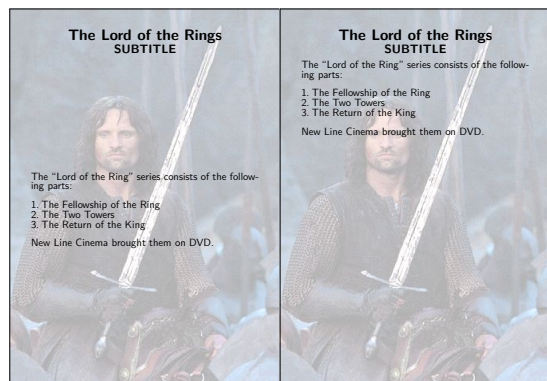

Figure 5. Vertical content positioning

Titles, pictures and overlays

Several macros facilitate the placement of titles, subtitle, pictures and overlays. When the value of title and/or subtitle parameters has been set, these are automatically placed at the top of the contents. By default then, they appear on both pages of the covers. By judicious application of [title=<text>] or [title=] on the first and/or second parameter of \startcase[][] one can let these appear and disappear at will.

Pictures may be placed with \casepicture. Its first (optional) argument governs the horizontal position. The permissable values are [left] and [right], but if this parameter is left empty the picture will be centered. The second (optional) argument is transferred to the second parameter of the \externalfigure[][] with which the picture is placed. The third argument designates the picture, either a filename or a picture reference from \useexternalfigure. The pictures in figures 1 and 2 were placed that way.
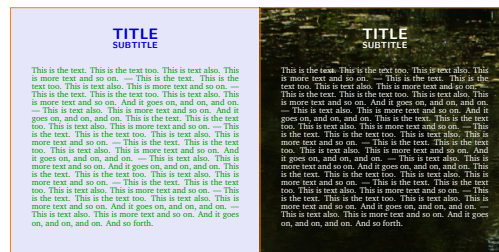

Figure 6. Title, picture, overlay, color

Coloring the background of frames in ConTEXt, according to its documentation, is governed by the background parameter, that can take on the values screen, none, color, foreground and name; [background=color] is the default in this module.[3] A specific color for the background is then set through [backgroundcolor=color]. By this the left page of figure 6 has received the value lavender. On the right side of that figure an overlay was set with [overlay=picture] in the second argument of \startcase. Note that this picture will fill the whole page, so that it will appear distorted if the dimensions differ from those of the cover page.

The style and color of the elements can be customized too. For example, on the left side in figure 6 the title and subtitle are blue, while the text is green. On the right side all colors are white in order to make them visible against the dark overlay. The parameter style is used for the text, which is the default for the other elements. The settable parameters are [style=fontcommand], titlestyle, subtitlestyle, sidetitlestyle, [framecolor=color], foregroundcolor, titlecolor and sidetitlecolor. In this figure the color of the frame was changed to orange. Use [frame=off] to remove the frame.

The background of the inner frame (made visible in figure 4) can be given a color different from the outer one with [innerbackgroundcolor=color]. Something similar applies to the placement of overlays. Set [inneroverlay=on] and an overlay fills the inner frame instead of the whole of the coverpage. These possibilities are illustrated in figure 7.
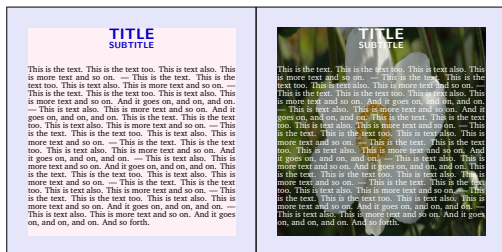
Figure 7.   Background variations

Formatting content

Content can be formatted in three variations: [format=none], columns en packed. The typesetting of a coverpage takes place within a \framed and the formatting of the content on the inside depends solely on the user input. With format none nothing special is done. In figure 6 this is the option chosen.

The second possibility is typesetting in columns. The ConTEXt construct used here is \startsimplecolumns..\stopsimplecolumns. The reason for not using the more complete column or columnset implementations is that these do not work inside \framed. The cover of figure 9 is typeset with the columns option while figure 10 has the packed option. In the latter the content space is filled as much as possible. This is especially useful when for example a large number of mp3's has been burned on the CD. With this option a great number of titles can be put on one cover page. For more information on the ins and outs of the packed format one is referred to the article by Dennis van Dok.

```
\track \artist{Bassano} Frais et Gaillard, 1591...(3:06).
\track \artist{Bovicelli} Io son ferito, 1594...(6:36).
\track \artist{De Cabez\'on} Un gay bergier, 1578...(2:38).
\track \artist{Bovicelli} Anchor che co'l partire, 1594...(3:54).
\track \artist{Ortiz} Recercada segonda, 1553...(3:05).
\track \artist{Ortiz} Recercada tercera, 1553...(2:33).
\track \artist{Coelho} Susanne un jour, 1620...(4:50).
\track \artist{Taeggio} Pulchra es, amica mea, 1620...(5:35).
\track \artist{Bassano} Susanne un jour, 1591...(3:33).
\track \artist{Bovicelli} Angelus ad pastores ait, 1594...(4:32).
\track \artist{De Cabez\'on} Pour un plaisir, 1578...(2:04).
\track \artist{Rogniono} Un gay bergier, 1592...(4:17).
\track \artist{Salaverde} Susanne un jour, 1638...(6:53).
\track \artist{Luzzaschi} Aura soave, 1601...(2:53).
\track \artist{Luzzaschi} O Primavera, 1601...(2:53).
\track \artist{Bassano} Anchor che co'l partire, 1591...(3:22).
\track \artist{Bassano} La bella netta ignuda, 1591...(5:13).
\track \artist{Bassano} Ricercata prima, 1585...(3:28).
\track \artist{Bassano} Tirsi morir volea, 1591...(5:36).
\track \artist{Bassano} Un gay bergier, 1591...(2:36).
\blanktrack
\track[nonumber] Total time...(79:54).
```

Figure 8.   Input of column format example

Finally there are some macro's that facilitate the typesetting of music tracks. An example of their use

is found figures 9 and 10. The first of these also illustrates the use of casebefore and caseafter. The title is separated from the body by a horizontal rule placed with [casebefore=\hrule]. The command given on the casebefore is executed between the typesetting of title-subtitle and the start of the contents. Likewise [caseafter=\hrule] is executed just behind the contents.

Figure 9.   Example in column format

Figure 10.   Example in packed format

Each music track is described by a \track macro. Its format is

\track[number] <description>...(duration).

The three dots ... separate the description from the duration. Within the description the \artist{text} macro switches the font to the \artiststyle. The parentheses around the duration can be substituted for something else through the parameters timebefore

and `timeafter`. When the duration between the parentheses is left empty, both the duration and the filling dots are omitted from the output.

Tracknumbers can be preceded and followed by commands/text through `numberbefore` and `number-after`. Their number of digits is set with `numbersize` and a prefill with leading zeroes can be chosen with `[zeroes=yes]`. Font settings are provided for the track, tracknumber, artist and duration entries. Color settings are available for track, tracknumber and duration.

Tracks are numbered consecutively and in figure 9 their width is set by `[numbersize=2]`. The last entry, giving the total duration of the CD, had its tracknumber suppressed through value `nonumber`.

In order to fit things on a page, one can fiddle with the space between the lines, except for the packed format where other rules reign. Set for example `[interlinespace=2ex]` on the first cover page and reset it on the second one with `interlinespace=`. One can also set the standard values `small`, `medium` and `big`. The altered linespacing goes in effect just after the titles have been typeset, but before the execution of `casebefore`.

In figure 10 the same tracks are typeset, but now in packed format. The two series of tracks were delineated here with "`\title Side A.`" and "`\title Side B.`" All text between `\title` and the final dot is taken as a title and typeset between —'s. This option is useful when combining several mp3-compressed albums on one CD. The example also demonstrates the `[zeroes=yes]` option in order to make every tracknumber the same size with preceding zeroes.

The macro `\blanktrack` sets an empty track, allthough this will be invisible in the `packed` format.

It is especially usefull as a filler to even out columns in the `columns`-format.[4]

Accessing variables

The standard values in the module can be redefined, of course. Their current values are given in table 2.

Inside a page one can access the internal dimensions. These are `\dimens` which receive their value during typesetting; thus these values have no meaning outside the page content. The following are available, their names speak for themselves; see figure 4 for an illustration of the frame parameters.

□ `\cdframewidth`
□ `\cdframeheight`
□ `\cdinnerframewidth`
□ `\cdinnerframeheight`
□ `\cdspinewidth`
□ `\cdpagewidth`

1. D. van Dok, *Jewel case listings for mp3 cdroms*, NTG-MAPS 33 (2005).
2. For clarity colored framelines on the innerframe were selected with `[innerframe=on]`.
3. Do not forget to activate colors with `\setupcolors[state=start]`.
4. Whereas `\startcolumns` can be made to advance to the next column with `\column`, `\startsimplecolumns` does not respond to it. That leaves us with evening out columns by adding blank tracks.

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type	cd,slim,jewel,dvd	type of cover
spine	none,big,small,dimension	refined type
state	draft,final	form of output
output	page,box	print or boxregister
cutmarks	on,off,color	not for box
offset	0pt,dimension	offset of contents
margin	0pt,dimension	additional margin
location	middle,top,bottom,none	vertical position contents
sidelocation	middle,top,bottom,none	vertical position sidetitle
title	\empty,string	title text
subtitle	\empty,string	subtitle text
sidetitle	title,string	sidetitle text
format	none,columns,packed	format coverpage
overlay	none,picture	overlayed picture
inneroverlay	off,on	overlayed picture inner
casebefore	\empty,command	before content
caseafter	\empty,command	after content
n	2,number	number of columns
distance	5mm,dimension	column distance
numbersize	2,number	digits of track number
zeroes	no,yes	preceding zeroes
numberbefore	\empty,command	before tracknumber
numberafter	\empty,command	after tracknumber
timebefore	(,command	before duration
timeafter	),command	after duration
frame	on,off	show coverframe
framerule	.4pt,dimension	frame rulesize
innerframe	off,on	show inner coverframe
innerframerule	.4pt,dimension	innerframe rulesize
interlinespace	empty,dimension	change interlinespace
style	\ss,fontcommand	font of contents
titlestyle	style,fontcommand	font of title
subtitlestyle	style,fontcommand	font of subtitle
sidetitlestyle	style,fontcommand	font of sidetitle
trackstyle	style,fontcommand	font of track data
numberstyle	style,fontcommand	font of track data
timestyle	style,fontcommand	font of track length
artiststyle	style,fontcommand	font of artist data
foregroundcolor	black,color	color of page content
framecolor	cdgray,color	color frame
innerframecolor	cdgray,color	color innerframe
titlecolor	foregroundcolor,color	color titles
sidetitlecolor	foregroundcolor,color	color sidetitle
trackcolor	foregroundcolor,color	color track data
numbercolor	foregroundcolor,color	color track number
timecolor	foregroundcolor,color	color track length
background	color,none	background setting
backgroundcolor	white,color	frame background
innerbackgroundcolor	backgroundcolor,color	innerframe background
sidetitlebackgroundcolor	backgroundcolor,color	sidetitle background

Table 1.   Parameters on \startcase[.1.][.2.]

\caseheightcd	120mm	cd: height
\casewidthdvd	120mm	cd: width
\casesideslim	3.8mm	slim cd: width spine
\casesideslimspace	15mm	slim cd: offset spine
\snipruleheight	2mm	slim cd: height cutout region
\sniprulewidth	11mm	slim cd: width cutout region
\jewelcaseheight	117mm	jewelcase: height
\jewelcasewidth	138mm	jewelcase: width
\jewelcaseside	6mm	jewelcase: sides
\caseheightdvd	182mm	dvd: height
\casewidthdvd	130mm	dvd: height
\casesidebigdvd	14mm	dvd: width big spine
\casesidesmalldvd	7mm	dvd: width small spine
\grayrulecolor	cdgray	final: color of greys
\nonfinalgrayrulecolor	darkred	draft: color of grays
\grayrulesize	.4pt	thickness gray rules

Table 2. Default definition values