

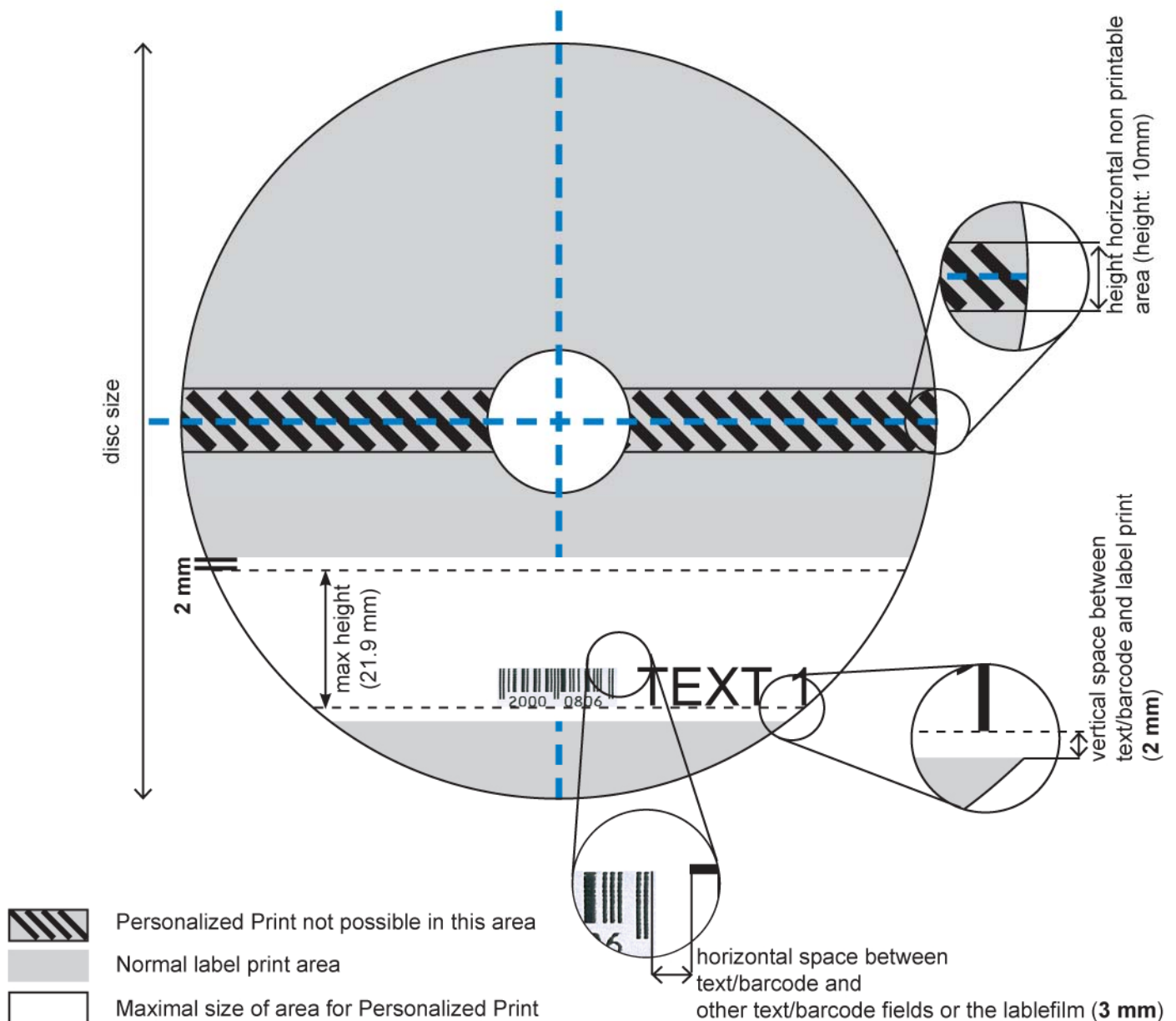
Personalized Print

Utilizing the nLiner – n'Solution Technical Factsheet



The personalized print area

The personalized print in combination with the Postscribed ID is a new feature exclusively offered at Sony DADC. The following specification describes the printing option of the personalized print area.



Only one personalized print area can be applied on a disc.

Color of serialized print:

The print will be implemented with black ink. Other colors are not supported.

Maximum size of the area for personalized print:

This area contains the personalized print text/barcode fields. The height of this area can be up to 21.9 mm.

Tolerances:

Any space you do not use for the personalized print can revert to the design that appears on the rest of the disc, but the space between the personalized text and the normal label print always has to be at least 2 mm up/down and 3 mm sideways. For detailed information about text and barcode fields, please review the section "Personalized Text and Barcode Fields".

The angle tolerance is $\pm 1^\circ$ between serialized print and background of the disc's label.

Position of the area for personalized print:

The personalized print can be either on the lower or upper side of the disc.

Note: Of course the label print can be rotated if you want the personalized print not to be horizontal.

Non-printable area for personalized print:

Personalized printing is not possible in this area (see image above). The height of this area is 10mm. Productions in Europe are not limited concerning the “non printable area”

Asymmetric Label Design:

The nLiner automatically adjusts the orientation of the disc before the serialization. A rotation-symmetric design or a blank disc can not be handled. Also sliver shiny areas are an issue (bare discs).

Background options for personalized print area:

The base print (background) of the personalized print area will be one of the following:

- White background is recommended in case of automated reading of text or barcodes (Optical Character Recognition, Scanners).
- Please **avoid reflective silver shiny** (not printed) areas.
- Serialized print on color: Sony DADC recommends the serialization printed on to a shiny white background. Other colors may result in a contrast between the serialized print and the disc background being unreadable by automatic scanning. A clear shiny coating is required to print on top of the customized label print in case the background is not white. (matte is not possible). The coating makes colors slightly darker. Please contact us if you are considering printing on a non-white background. Please check additional requirements for Expericard and Responder Sleeve packaging below.
- Printing on CD-R/DVD-R with **Thermo-Transfer-Coating** (clear, pearl or white) is supported. (electronic Postscripted ID is not supported on recordable discs)

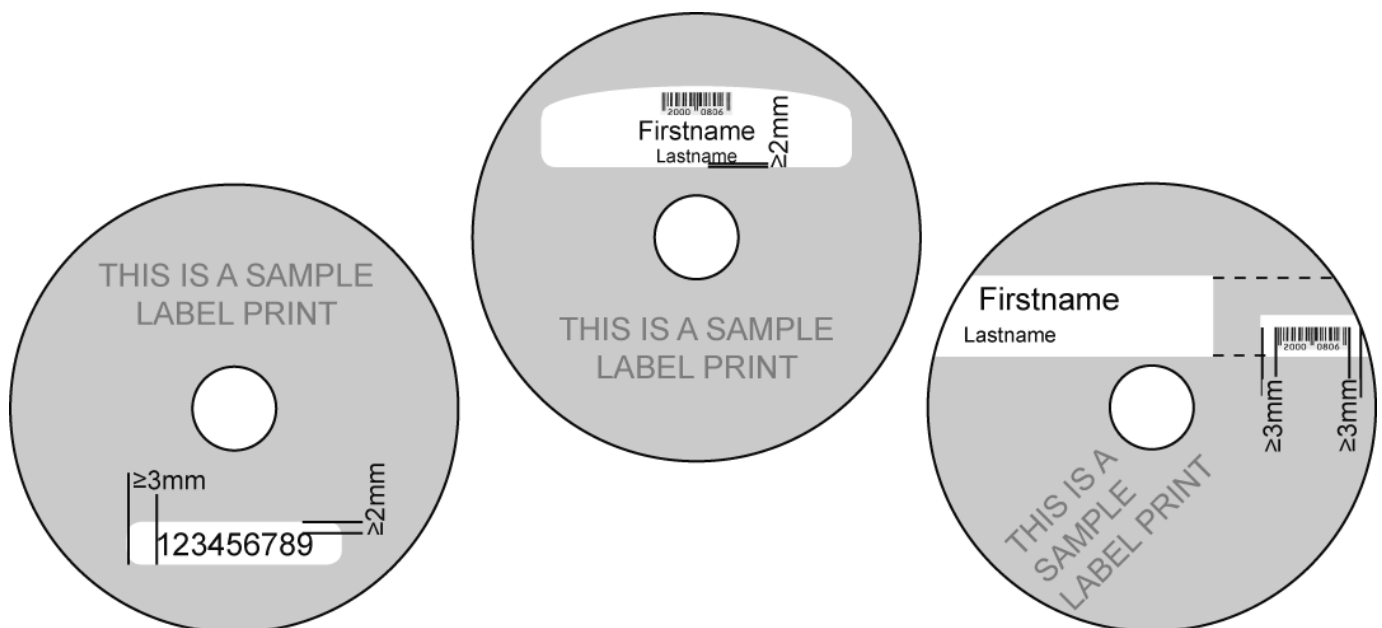
Examples of personalised print, which cannot be accepted:

A: Not enough vertical space between text and label print (less than 2 mm)

B: Not enough horizontal space between text and barcode (less than 3 mm)

C: Not enough horizontal space between barcode and label print (less than 3 mm)

D: Personalised Print in this area in the middle of the disc is not offered in all Sony DADC facilities.

Examples for correct personalized print area:

Examples of possible configurations

Example 12.1 (12cm):



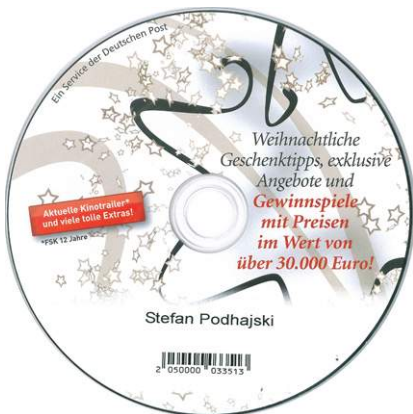
Example 12.2 (12cm):



Example 12.3 (12cm)



Example 12.4 (12cm):



Example 12.5 (12cm, QR Code):



Example 12.5 (12cm, left barcode is serialized, right one static):



Example 12.6 : (Code 39)



Example 12.7 (UPC 13 and serialized number):



Example 12.8 : (UPC 13)



Example 12.9 (Name and UPC 8) :**Example 12.10 (UPC 8):****Example 12.8 : (barcode on centerline on request possible)****Example 8.1 (8 cm):****Example 8.2 (8 cm):**

Label Print Specs

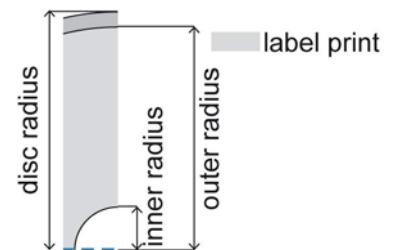
The label print can be printed using offset or screen printing technology. The position of the personalized print area is optimized for discs with a full label print even on the inner ring (see examples above). 12cm discs (as well as 8cm discs) without the silver shiny inner ring have the label film Specification F (available at www.sonydadc.com).

12 cm discs:

inner radius: 11.5mm
outer radius: 58.5mm

8 cm discs:

inner radius: 11.5mm
outer radius: 38.5mm



(templates are available for download at <http://www.sonydadc.com/downloads.dvd.go>)

Catalogue Number:

To handle the production process from master to shipment, every label design requires a small “tag” (e.g. “promo-2008”). Sony DADC calls such a tag “Catalogue Number”. This catalogue number can be created by the customer. The same code has to be on the packaging.

Personalized Text and Barcode Fields

Fields

For the Personalized Print 4 fields for text and barcodes are available.

- Fields can be left blank.
- For each field you can choose different font sizes.
- The fields are single-line. (no automatic line break)
- The possible positions of the fields are defined in the chapter “The personalized print area”.

Length of text fields

- 3 of the 4 text fields can contain up to 45 characters (intended for text, Code 39 or QR Code).
- 1 of the 4 text fields can contain only up to 12 characters (intended for a EAN-13 or EAN-8 barcode).

More than 45 characters are not possible except for the QR Code.

For the QR Code up to 100 characters are possible upon request.

The maximum number of characters per field also depends on:

- the font size
- the disc size
- the position of the field on the disc
- the characters used (e.g. an "M" needs more space than an "i").

Because of these variables, no exact number of characters per line can be predetermined.

Font	Maximum characters per line on a 12 cm disc	Maximum Characters per line on a 8 cm disc
Arial 8	45	about 38
Arial 10	about 45	about 30
Arial 12	about 40	about 25
Arial 14	about 35	about 20
Arial 16	about 30	about 17

The numbers of characters in this table are counted in the position with maximum space on the disc and with an "A" as the character used.

Other fonts can be used upon request.

Types of supported barcodes

UPC-13 alias EAN-13

For numeric codes, height is 6 mm for barcode with numbers below, length is 28 mm

UPC-8 alias EAN-8

For numeric codes, height is 6 mm for barcode with numbers below, length is 19 mm

Code 128 on request



Code 39

Supports alpha-numeric strings.

The height is flexible, but with a maximum 21 mm without numbers,

The length depends on number of characters (12 characters approx. 39 mm with standard resolution),

In the text below a barcode the asterisks (*) "start and stop symbol" for Code 39 are not printed. The font of the text is Arial and you can choose the font size (e.g. Arial 8: height 1.5 mm).

Code 39 Barcode	font size: 4dot resolution: 298x381 example:  123456789012345	STANDARD RESOLUTION font size: 4dot resolution: 324x473 example:  123456789012345
8 characters	28 mm	25 mm
10 characters	42 mm	34 mm
12 characters	49 mm	39 mm
15 characters	59 mm	48 mm

Please make sure the white area offers extra space to cover tolerances (at least 2 mm above/below and 3 mm horizontally).

Text below the barcode Code 39 is optional.

Please contact us in case you need Code 39 with other than 12 or 15 characters.




QR Code Sample (all possible font sizes)

A two dimensional barcode for alpha numeric strings.

The height depends on number of characters (45 characters approx. 1.1 mm with standard font size),

The width is equal with the height.

For the QR Code up to 100 characters possible.

font size: 6dot	font size: 5dot	(standard) font size: 4dot
50 Characters width & height: approx. 16mm 	50 Characters width & height: approx. 14mm 	50 Characters width & height: approx. 11mm 

Please make sure the white area offers extra space to cover tolerances. At least 2 mm up/down and 3 mm sideways.

Limitations on further use

Responder Sleeve

This packaging requires the codes within a certain area. Please check the technical factsheet for Responder Sleeve.

Expericard Packaging

In case the barcode on the disc is used for automatic assembly into an Expericard packaging at AGI Van de Steeg please note:

Supported and tested barcodes on the disc are EAN-8 and EAN-13 in black on a white background.

The barcode has to be located within a radius of 48mm from the center hole of the disc. In other words: On a 12cm discs the space between the outer edge and the barcode has to be at least 12mm.

Please check the latest technical specification from AGI Van de Steeg.

Other Requirements

98% to 99.8% ID Delivery

During the production process, single discs can be rejected. These discs cannot be reproduced; therefore, some numbers, barcodes, and/or names will be missing.

For orders of more than 5000 discs:

The standard output tolerance is 98% of all ordered personalized discs. However, a yield of 99.8% is available at an additional cost (where a maximum of 0.2% of the IDs are missing).

For orders of less than 5000 discs:

100 personalized discs can be missing. Only 10 personalized discs missing is available at an additional cost.

Compatible media

CD 12cm / 8cm,

DVD 12cm / 8cm,

CD-R / DVD-R 12cm

This documentation is subject to be changed without notice. This documentation will be expanded after successful tests of new features. Please contact ncd@sonydadc.com to obtain the latest version.