

## NAME

cig - convert layout from ICD project to GDS II

## SYNOPSIS

**cig** maincell [-**ailrTuv**] [-**F** uu] [-**f** mf] [-**L** libname] [-**m** mlist]

## OPTIONS

- a** No AREF generation (they are expanded into SREFs).
- F uu** For specification of a *fixed* user unit.
- f mf** For specification of an alternate *multiplication factor* (default: 1000).
- i** Also processing of *imported* cells.
- L libname**  
Use specified *libname* string in place of maincell.
- l** Use *lambda* as user unit.
- m mlist**  
Use this *mask list* instead of the default mask list.
- r** Try to use *remote* cell names for alias names.
- T** Output only the *top* cell (maincell).
- u** Convert the cell names to UPPERCASE.
- v** Enable *verbose* mode.

## DESCRIPTION

*Cig* converts data from the ICD database to GDS II format. The output is written into the file *maincell.gds*.

The co-ordinates in a GDS file are specified in GDS database units. This unit is normally 1/1000 of a user unit (i.e. your lambda value). Thus, if you make a new project, you have to choose a suitable lambda value (in microns). If you want to change lambda, use the *clambda* program. Note that the program normally multiplies all values with 1000. This may result in too big or too small values. In that case take a smaller multiplication factor. It is better to use always a value  $\geq 4$ , because elements in the "nor" files may be on 1/4 lambda grid.

Default, the first value in the UNITS record specifies an user unit of 1 micron. Thus, the user unit of the GDS file is not equal to the lambda value. With option **-l** you can set the user unit equal to lambda. If needed, with option **-F** you can set another first value. Note that the *cgi* program is not using the information of the first value.

The layers of the used process are mapped to GDS layer numbers by a mask list file. Default this file is the file *bmlist.gds* in the process directory, but an alternative file can be specified using the option **-m**. For a description of the contents of the mask list file, see *bmlist(4ICD)*. Each line of this file contains a mask name, a GDS layer number and (optionally) a GDS data type or text type number. Besides that it is specified in this file how layout from the project is mapped to GDS layout records, it is also specified in this file how terminals (pins) and labels (net names) are mapped to GDS text structures. If the mapping of a terminal or label to a text structure is not defined, the terminal or label can be specified in the GDS file as a property with a boundary element (see *cgi(1ICD)*).

## BUGS AND CAVEATS

When the mapping for certain layout elements is not specified, then these layout elements are *skipped*. If this happens for the first time, a warning message is given.

## AUTHOR(S)

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## LIMITATIONS

GDS layer numbers must be in the range of 0 to 255.

**FILES**

ICDPATH/share/lib/process/proc/bmlist.gds	(def. basic mask list)
NELSISSPROJECT/.dmrc	(input file)
NELSISSPROJECT/layout/celllist	(input file)
For each <i>cell</i> read:	
NELSISSPROJECT/layout/cell/box	(input file)
NELSISSPROJECT/layout/cell/info	(input file)
NELSISSPROJECT/layout/cell/mc	(input file)
NELSISSPROJECT/layout/cell/nor	(input file)
NELSISSPROJECT/layout/cell/term	(input file)
<i>.maincell.gds[.volume-nr]</i>	(output file(s))

**SEE ALSO**

cga(1ICD), cgi(1ICD), clambda(1ICD), mkpr(1ICD), bmlist(4ICD).