Installation guide for ON Semiconductors I3T50 - I3T80 - C07M I2T100*

Brouns Robin
Europractice - IC
INVOMEC - imec

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Scope

This document is intended for all external ON-semi users (non-IMEC) who have signed the appropriate Design Kit License Agreement.

1 The design kit

1.1 Used abbreviations

MSD Mixed Signal Developer

UDS Unified Design System

udsPM UDS Project Manager

1.2 The basic structure of the UDS design kit

The design kit is made in two separate parts. The first part is the base called UDS. This will contain everything to create the MS-Developer framework. The second layer consist from the technology files such as the Calibre verification decks, LIB and LEF files for place and routing, spectre model files and many others.

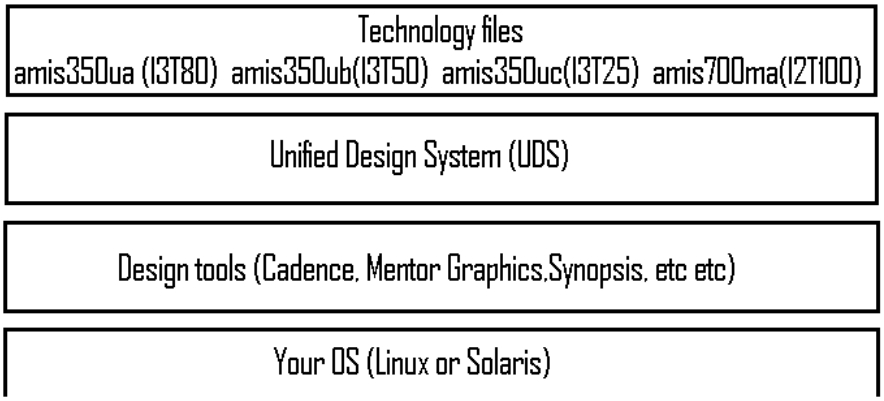

Figure 1: Structure of the design enviroment

*version 0.1

2 Installing the design kit

2.1 How to download and unpack your design kit

MS-Developer is installed from two tarball files obtained from the Europractice online website. After downloading the tarball files, the user unpacks the data by using the commands:

```
$> tar -zxvf UDS_system_v*_*.tgz
$> cd UDS
$> tar -zvxf amis*****_W**_Y**.tgz
```

The first command will unpack the UDS system. Once this is unpacked you will unpack the technology files in the UDS directory. It's strongly suggested that one institution or company has one UDS system . This because the UDS system has the ability to work simultaneously with multiple users. If an institution or company wants to make multiple projects in multiple technologies then these can all be unpacked within the same UDS system. The technologies will work fine next to each other.

2.2 Setting up the kit

Before using the MS-Developer environment, the LINUX environment must be configured. Although the environment setup can be preformed on the LINUX command line, it is usually preferred to place the appropriate commands in the user's ~/.cshrc.private file or a file that can be easily sourced (e.g. source amisUDS.csh) prior to using the MS developer.

Before executing the commands we assume that the design tools (e.g. Cadence ICFB, MMSIM and Mentor graphics Calibre DRC/LVS/XRC) are sourced properly.

```
setenv CALIBRE_HOME $MGC_HOME
setenv AMIS "your UDS design kit installation"  (example: /home/username/UDS)
setenv ADS_ETC_DIR $AMIS/tools/etc/current
set path = ($path $AMIS/bin.linux/)
setenv AMIS_MSD_REV current
setenv AMISPRJ "Your design directory" (example: /home/username/my_design)
source $AMIS/setup/AMIS_DesignKit.cshrc
setenv CDS_AUTO_64BIT NONE
```

3 Your project

3.1 Starting the environment

Once your environment is set up as described above. You are ready to start Cadence with the MS-Developer. This can be done with the command:

```
$> msd
```

Then you will be prompt to select a previous project, by using the appropriate number, or create a new project by using the 'n' option and then pressing enter.

```
**********************************************************************
* MS-Developer (Revision: 2.34)
*
* (c) Copyright 1999-2003, American Microsystems, Inc.
* All rights reserved.
*
**********************************************************************
Select a project you would like to run.
0 ) Run msd without project mode
1 ) DAC12-000,A 12bit DAC
2) DAC12-001,A 12bit DAC redesign
n ) Create a New Project
e ) Exit
Enter selection of 0 - 2,n: n
```

After you have chosen to make a new project you will be prompt to give a project number and a ROM code.

```
Enter a 5 character project number (ex: 1R345): 12345
Enter a 3 digit ROM code default [000]: 000
```

Then you will be asked to select the technology of your design:

```
Select a Technology:
-------------------------
1) amis350ua
2) amis350ub
3) amis700ma
-------------------------
Enter Selection Number (1-3): 3
```

You will see here all the technology packages you have unpacked within the UDS directory. After choosing the technology that is required for your project, the Project Manager udsPM will start up.

3.2 Setting up your project

Once udsPM is started you have the ability to fill in some administrational information. Then you select the Route Selection and the Metal Layer configuration by checking the appropriate checkbox and using the combobox to select the number of metal layers. In some technologies you will have the ability to change the top metal to a thick top metal.

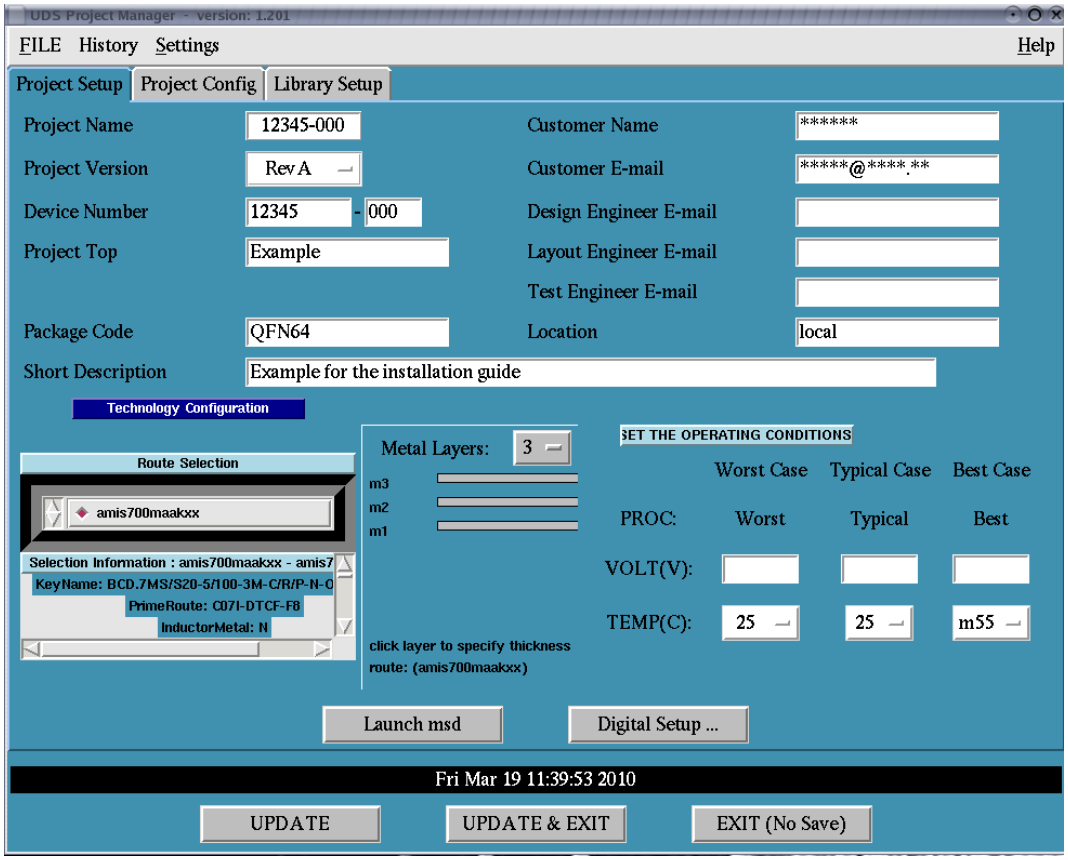

Figure 2: Project manager: Project setup

Next we choose the "Library Setup" tab within the udsPM. Here you can select the libraries you want to use. [1] The numbers next to the library name are the voltage that you want to characterize the library with. See Figure 3 on the following page .

[1] An overview of the libraries can be found at the europractice website (http://www.europractice-ic.com/libraries_AMIS.php).

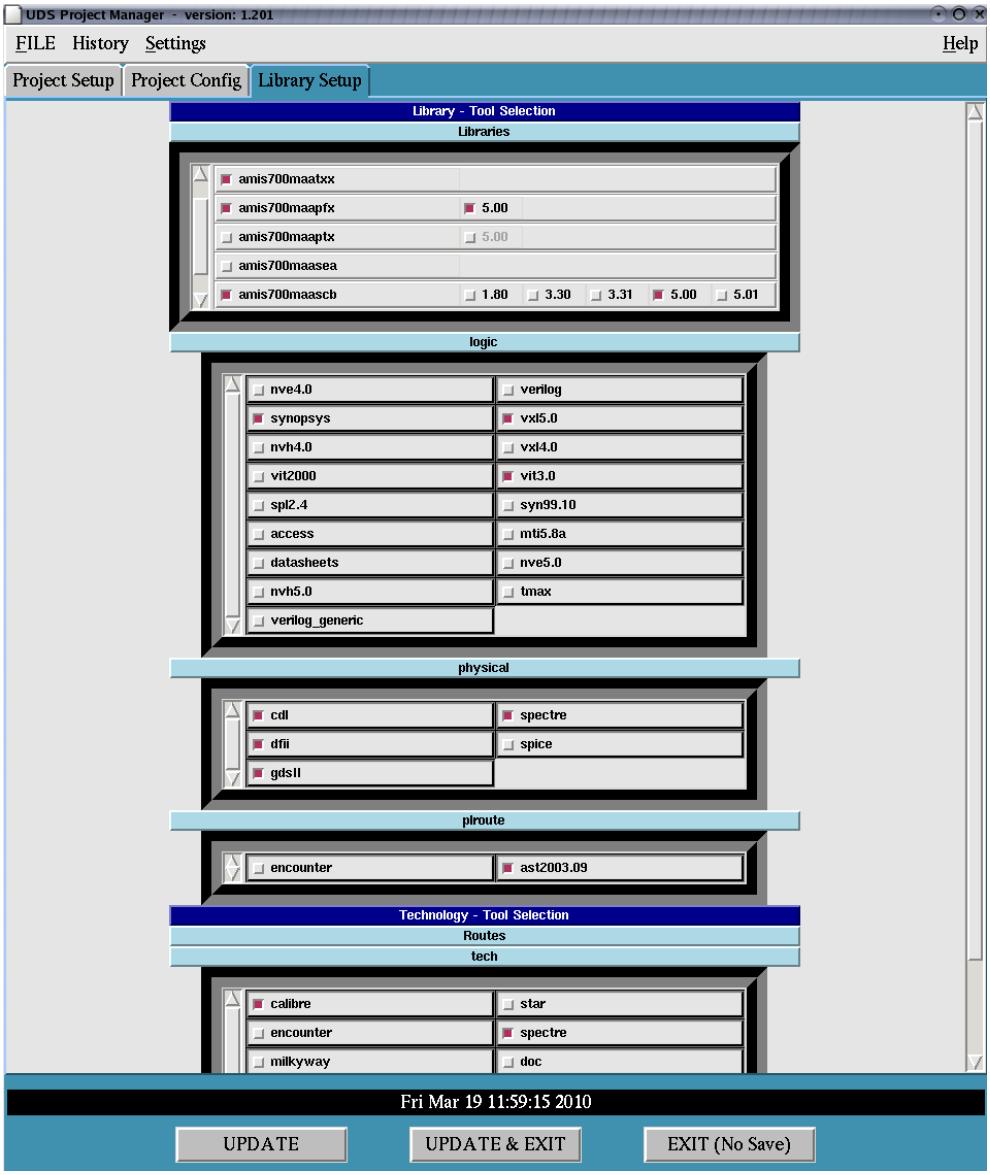

Figure 3: Project manager: Library Setup

Please check if the required settings are set in this menu. Afterward you have to press the button “configure” on the bottom of tab.

Once pressed a new tab called “Library config” will appear. In this tab you will find the configuration of linked files.

Now we are finished with the standard configuration of MSD, we go back to the tab “Project Setup” and press the button “Launch MSD”. Cadence ICFB will be launched with the MSD environment.

3.3 Design documentation

Documentation about the UDSystem can be found by entering the command:

```
$> $AMIS/bin.linux/docsys
```

Technology related documentation can be found in Cadence ICFB in the menu “Tech manuals” or manually go to:

```
$> cd $AMIS/lib/<Your technology>/EP_docs
```