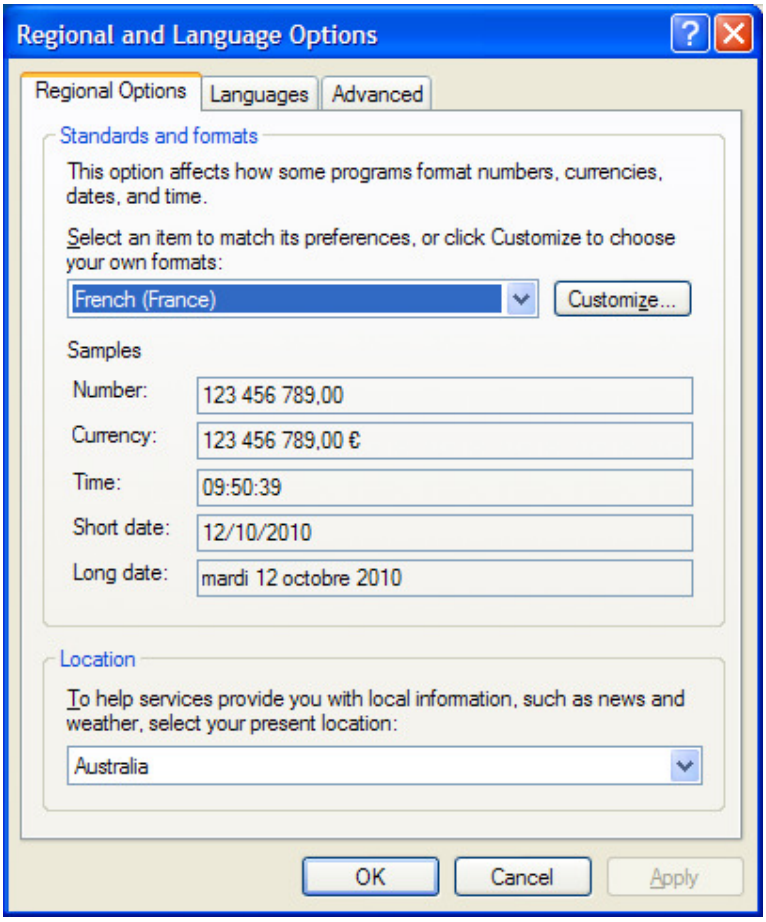
## European Units – Decimal Comma

Most countries in Europe use a decimal comma (e.g. 43,29) instead of the SI style decimal point (e.g. 43.29) to represent the decimal mark in their data. This can lead to erroneous impedance calculations if the ICD Stackup Planner is used without changing the operating system regional settings and converting all the decimal points, in the default stackups and Dielectric materials Libraries, to decimal commas.

Please find below instructions on how to use the European decimal comma in the ICD Stackup Planner.

1. In Windows you should have the Regional Options set to your country.
   Control Panel -> Regional and Language Options




   Select your country and note that the decimal comma is used in the samples.

2. The default stackups and the Dielectric Material Libraries need to be changed to the decimal comma system.

   Download the www.icd.com.au/downloads/Euro_Libs_v2011.zipped
   Renamed 'zipped' to 'zip' and unzip the files.

This library contains the default stackups 2 – 16 layers and the Core, Prepreg, Soldermask and Generic Dielectric Materials Libraries. Paste these into the following default directory overwriting the existing files.

C:\Program Files\ICD\ICD Stackup Planner\Default

3. Open the ICD Stackup Planner

ICD Stackup Planner – www.icd.com.au 12/10/2010

| Layer Number | Layer Name | Material Type | Dielectric Constant | Dielectric Thickness | Copper Thickness | Trace Clearance | Trace Width | Impedance Characteristic(Zo) | Edge Coupled Differential(Zdiff) | Broadside Coupled Differential(Zdbs) | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dielectric | 3,3 | 0,5 | | | | | | | Soldermask |
| 1 | Top | Conductive | | | 0,7 | 5 | 5 | 58,54 | 100,15 | | Signal |
| | | Dielectric | 4,3 | 4 | | | | | | | Prepreg |
| 2 | GND | Conductive | | | 1,4 | | | | | | Plane |
| | | Dielectric | 4,3 | 6 | | | | | | | Core |
| 3 | Inner 3 | Conductive | | | 0,7 | 5 | 5 | 48,25 | 85,81 | | Signal |
| | | Dielectric | 4,3 | 6 | | | | | | | Prepreg |
| 4 | VDD | Conductive | | | 1,4 | | | | | | Plane |
| | | Dielectric | 4,3 | 21 | | | | | | | Core |
| 5 | GND | Conductive | | | 1,4 | | | | | | Plane |
| | | Dielectric | 4,3 | 6 | | | | | | | Prepreg |
| 6 | Inner 6 | Conductive | | | 0,7 | 5 | 5 | 48,25 | 85,81 | | Signal |
| | | Dielectric | 4,3 | 6 | | | | | | | Core |
| 7 | VCC | Conductive | | | 1,4 | | | | | | Plane |
| | | Dielectric | 4,3 | 4 | | | | | | | Prepreg |
| 8 | Bottom | Conductive | | | 0,7 | 5 | 5 | 58,54 | 100,15 | | Signal |
| | | Dielectric | 3,3 | 0,5 | | | | | | | Soldermask |

Please make sure you used the decimal comma when editing the stackup variables and when adding to or modifying the Dielectric Materials Libraries.