



Introduction

IBISConn supports many different types of connector modeling methods and all types of connectors.

For Example

- ◆ Differential and unbalanced signaling
 - ◆ and/or to use both signaling methods at the same time
 - ◆ and / or with the same model.
- ◆ Single Line Models (uncoupled)
- ◆ Multiline Models (coupled)
- ◆ Cascaded models
- ◆ "Angled" connectors (Right Angle, 30 degree, 45 degree, other)
- ◆ "Cross Connected" pins (i.e. modjacks, other)
- ◆ Board to board (i.e. Pin and Socket / Backplane, Edgecard)
- ◆ Board to Cable



Introduction (continued)

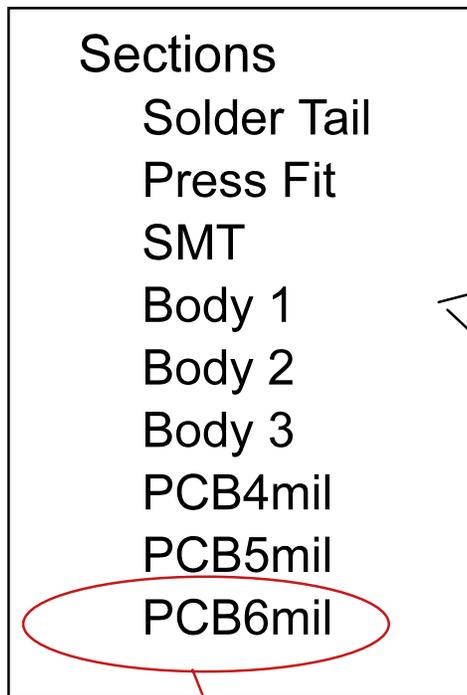
Further, IBISConn is adding the following capabilities...

- ◆ Swath matrix: To allow for model pin count expansion without increasing matrix. (might not be available for all models)
- ◆ Simulator compatible and consistent node mapping and parameter definition.
- ◆ With a few lines of descriptors text, more than one model can be described

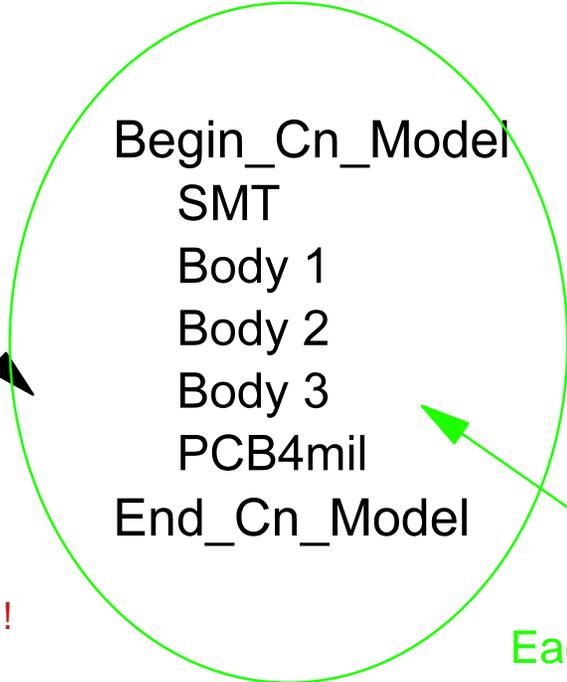


IBIS Connector Specification

With a few lines of descriptors text, more than one model can be described



Begin_Cn_Model
Solder Tail
Body 1
Body 2
Body 3
PCB5mil
End_Cn_Model



Each Section consists of up to 3 fully coupled matrices!!!

Each model only references the NAME of each section



Potential for 3rd party vendors to add value

- ▶ IBISConn from Geometry extractors
- ▶ Model Confirmation Service
- ▶ Accuracy methodology documentation for Simulators
- ▶ SPICE to IBIS Translator??
- ▶ Other?



IBIS Connector Specification

What is needed for promotion and public acceptance of IBISConn...

Update golden models

Golden Parser (Create "BNF" description for parser)

Accuracy methodology documentation for Models

- ◆ Levels of comparison (i.e. information only or other?)
 - ◆ Differential / Unbalanced simulations
 - ◆ Common node attachment in SPICE vs other...
 - ◆ Accuracy validation requirements:
 - Define Model Types (Ground, no ground)
- Define which tests
- Run golden models in SPICE Analysis (LC, TDR, Crosstalk, TDR, other)
 - Run golden models with example non-SPICE simulator (LC, TDR, Crosstalk, TDR, other)
 - Compare results
- Define tests that use different signaling (Differential / Unbalanced)
- Define test setup (source, sink, connections)
- Which domains? (Time, Frequency, both?)

Further publicly announced support from connector companies.

Further Press release (Bulletin boards, printing)

NOTE: Purposely NOT confirming to empirical measurements!



IBIS Connector Specification

Microsoft Access - [main]

File Edit View Insert Format Records Tools Window Help

Keyword: [IBIS_Cn_Model_Ver]

Required:

Description: This keyword allows electronic parsers to immediately determine that this file contains an IBIS connector model. The version number is used to inform the parser what keywords are valid for this model and to allow backward support as new keywords are added.

Usage Context: 1) MUST BE THE FIRST KEYWORD in the file.
2) It is normally on the first line of the file, but can be preceded by comment lines that must begin with a "!".

Example: [IBIS_Cn_Model_Ver] 0.93

UsageRules: [IBIS_Cn_Model_Ver] MUST BE THE FIRST KEYWORD in the file. It is normally on the first line of the file, but can be preceded by comment lines that must begin with a "!".

Record: 1 of 1

Form View

NUM

Specification Database



Decisions for today (1):

- ▶ Fixed formula or vendor assignment for definition of fastest risetime.



Decisions for today (2):

- ▶ ".IBISCnn" as a file extension?
 - Other .xxx options
 - cnn - connector
 - icn - interconnect
 - icm - IBIS Connector Model
 - iim - IBIS Interconnect Model
 - other??



Decisions for today (3):

- ▶ Vote on Added Keywords (IBIS Connector Spec and General Spec)
 - [website]
 - [email]
 - [redistribution]



Decisions for today (4):

- ▶ Line length limit
 - 120 required for matrices....
 - 80 is nice as a natural limit for text messages



Decisions for today (5):

- ▶ Reserved Words
 - PWR - To help with application specific models
 - GND - To help with application specific models. If we want to remove a keyword, this should be the keyword removed as to avoid confusion with the possibility of misinterpreting that there is a "perfect ground" named in a matrix that includes series resistance or series Inductance. Maybe "not allowed" if the pin in question has L or R values in the matrix.????
 - PWRGND - To help with non-application specific models
 - RET - Needed from the use of some types of reduced complexity models