**BUFFER ISSUE RESOLUTION DOCUMENT (BIRD)**

**BIRD NUMBER:** *177*

**ISSUE TITLE:** *[Initial Delay] keyword for Submodels and Driver Schedules*

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**DATE SUBMITTED:** *May 21, 2015*

**DATE REVISED:**

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**STATEMENT OF THE ISSUE:**

*BIRD 168.1 introduced the [Initial Delay] keyword. Its scope is defined within the [Model] keyword. However, there is a question whether there is any inheritance within multi-stage drivers or for submodels. This BIRD clarifies this issue.*

**ANALYSIS PATH/DATA THAT LED TO SPECIFICATION:**

*This issue was raised at the editorial task group that was preparing IBIS Version 6.1 text of the specification. Input from Michael Mirmak, Arpad Muranyi and Bob Ross is appreciated.*

**ANY OTHER BACKGROUND INFORMATION:**

None.

The *Usage Rules* in BIRD 168.1 should read as follows – changes are shown in red:

*Usage Rules:* The [Initial Delay] keyword can be specified only when at least one waveform table (Rising Waveform, Falling Waveform, or Composite Current) is included for the IBIS [Model] under which this keyword is specified. The V-T subparameter can be specified only when at least one voltage waveform table (Rising Waveform or Falling Waveform) is specified. It applies to all the voltage waveforms present but only within the IBIS [Model] under which this keyword is specified. The I-T subparameter can be specified only when at least one current waveform table (Composite Current) is specified. It applies to all the current waveforms present but only within the IBIS [Model] under which this keyword is specified. Only one [Initial\_Delay] keyword can be specified for a model. It shall be followed by either one subparameter or both subparameters. Data specified for a subparameter shall be handled as described below.

Add the [Initial Delay] keyword under the [Submodel] keyword to model hierarchy in Page 14 and modify *Other Notes* in Page 78 (Version 6.0) – changes are shown in red:

*Other Notes:* The following list of keywords that are defined under the [Model] keyword can be used under [Submodel]: [Pulldown], [Pullup], [GND Clamp], [POWER Clamp], [Ramp], [Rising Waveform], [Falling Waveform], and [Initial Delay].