

BIRD ID#: ?
ISSUE TITLE: IBIS-AMI New Keyword Init_Returns_Filter
REQUESTER: Walter Katz, Signal Integrity Software, Inc.
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STATEMENT OF THE ISSUE:

In the Section 6c, "ALGORITHMIC MODELING INTERFACE (AMI)", a channel consisting of a Tx buffer that has Init_Returns_Impulse=True and GetWave_Exists=True, and an Rx Model that has Init_Returns_Impulse=True and GetWave_Exists=False, requires de-convolution in the time domain flow.

The suggestion is to add the new reserved AMI parameter Init_Returns_Filter that will allow model makers to of such Rx models to optionally return the impulse response of the Rx equalization alone.

Add the following to page 144.

```
| Init_Returns_Filter:  
|  
| Init_Returns_Filter is of usage In and type Boolean. It is only  
| allowed in a .ami file if Init_Returns_Filter=True. If specified in  
| a .ami file it must be entered in the following way:  
|  
| (Init_Returns_Filter (List False True) (Usage In) (Type Boolean)  
| (Description "This model's init function can return either  
| the impulse response of the channel modified  
| by the filter, or the impulse response of the  
| filter alone"))  
|  
| If Init_Returns_Filter is so specified in the .ami file, and if when  
| the EDA tool calls the function AMI_Init with  
| (Init_Returns_Filter True)  
| the AMI_Init function is directed to return the impulse response of  
| the filter alone in the first impulse response in the impulse matrix.  
| Otherwise, the AMI_Init function is directed to return the impulse  
| response of the channel modified by the filter.
```

ANALYSIS PATH/DATA THAT LED TO SPECIFICATION

This new parameter has been added to enable model writers to write models that can return either the impulse response of the filter or the impulse response of the channel modified by the filter (when the model returns a modified impulse response). It is required that models with this capability

be able to return either form of impulse response. Since the default value of Init_Returns_Filter=False (False is the first entry in List), then such models, by default, will work exactly as models work in IBIS 5.0, and as such EDA Tool flows that work with IBIS 5.0 models will work with models with Init_Return_Filter seamlessly. If Init_Returns_Filter is defined, then EDA tools can take advantage of this option to eliminate the need to do de-convolution with certain combinations of Tx and Rx models, and certain flows.

It is recommended that an Rx model that has Init_Returns_Filter=True and GetWave_Exists=False, be written to so include and properly support Init_Returns_Filter.

ANY OTHER BACKGROUND INFORMATION:
