

Subject: SerDesDesign.com IBIS-AMI Model Development Environment

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For the past 10+ years, John Baprawski has provided cost-efficient high-quality IBIS-AMI models to 40+ high speed digital (HSD) integrated circuit (IC) companies using his **IBIS-AMI Model Development Environment** for use in any standards compliant SerDes system channel simulator.

That product is available for purchase at the SerDesDesign.com Store-Products (<https://www.serdesdesign.com/home/store-products/>; see IBIS-AMI Model Development Environment).

This paper documents the features and use of this product.

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Overview

Be sure to read these two documents first:

[READ ME FIRST - License Agreement.pdf](#)

[READ ME SECOND - Instructions.pdf](#)

This Environment product replaces the introductory product:
[How_to_Create_IBIS_AMI_Models_Using_Free_Tools](#).

- The focus is on IBIS-AMI model development.
 - Linear time invariant (LTI) models.
 - Nonlinear and/or time variant (NLTV) models.

SerDesDesign.com IBIS-AMI Model Development Environment

- IBIS-AMI models can be used with any channel simulator.
- Supports 64-bit Windows and 64-bit Linux.
- Uses the free Cmake tool to control IBIS-AMI model code building.
 - Custom Cmake files provided.
- On Windows, uses the free Microsoft Visual Studio tool for building and debugging.
 - Includes instructions for debugging AMI models with channel simulators.
- Supports creating standalone C++ model libraries.
 - Templates provided for C++ header files (*.h) and source code files (*.cpp).
- Supports creating C++ based AMI models.
 - Templates provided for C++ header files (*.h) and source code files (*.cpp).
 - Templates provided for AMI files (*.ami) and IBIS files (*.ibs).
 - Includes parser for the AMI_Init() function AMI_parameter_in string array.

The **SerDesDesign.com IBIS-AMI Model Development Environment** (Product) comes with a 12-month time-based node-locked license tied to your Windows 64-bit PC.

Summary Approach for Creating IBIS-AMI Models

The following summary approach is based on 7 steps. The steps are discussed in context with creating a simple transmit (Tx) IBIS-AMI model for use on 64-bit Windows.

1. Set up a specific directory structure on a Windows 64-bit computer.

[1 Setting up your Directory Structure.pdf](#)

2. Download and install the free Microsoft Visual Studio product.

[2 How to Obtain the Free Visual Studio Tool.pdf](#)

3. Download and install the free CMake product.

[3 How to Obtain the Free CMake Tool.pdf](#)

4. Use the custom SerDesDesign.com CMake files.

[4 Setting up the CMake Files.pdf](#)

5. Create the desired IBIS and AMI model files.

[5 Setting up the IBIS AMI Files.pdf](#)

6. Create the desired C++ source code files.

[6 Setting up the Source Code Files.pdf](#)

7. Create the IBIS-AMI models and use it in a channel simulator.

[7 Putting it all Together.pdf](#)

How to Remove IBIS-AMI Model Licensing Restrictions

The IBIS-AMI models generated by this Environment have the same time-based node-locked licensing restrictions as the Environment.

Use of the IBIS-AMI model on any Windows or Linux machine requires that the built-in licensing restrictions must be removed. To do this, zip up and send your AMI_Solution project, with any additional instructions, to admin@serdesdesign.com.

An IBIS-AMI model with licensing restrictions removed will be sent to you after your payment in the SerDesDesign.com store (<https://www.serdesdesign.com/home/store>) for an amount that is 50% of standard model pricing as defined in the response you receive from admin@serdesdesign.com.

Example: Standard pricing for an Tx or Rx IBIS-AMI model on Windows or Linux is \$2,000. So, the 50% pricing results in a price of \$1,000.

Details on the Custom CMake files

In general, there is no need to understand the CMake files, just use them with the obvious customization required.

[SerDesDesign CMake Instructions.pdf](#)

Creating Library Models to be used in IBIS-AMI Models

The methodology promoted is to place one's scientific code into custom library models. Then, use those models in the AMI model code. The AMI model code then becomes primarily a generic interface to one's custom models.

[SerDesDesign Creating Custom Library Models.pdf](#)

Creating IBIS Files

The IBIS file (*.ibs) can be created by using the IBIS file template as-is, unless one wants to customize the IBIS file features.

[SerDesDesign Creating the Tx IBIS File.pdf](#)

[SerDesDesign Creating the Rx IBIS File.pdf](#)

Creating AMI Files

The AMI file (*.ami) can be created by primarily adding one's model specific parameters to the AMI file template.

[SerDesDesign Creating the AMI File.pdf](#)

Details on the SerDesDesign ParamParser for AMI parameters in

In general, there is no need to understand the CMake file, just use them as-is, unless you want to customize them.

[SerDesDesign ParamParser Instructions.pdf](#)

Creating C++ Source Code for LTI IBIS-AMI Models

Using the methodology promoted, the LTI AMI model code is primarily a generic interface to the custom library models.

[SerDesDesign Creating the LTI AMI Model Code.pdf](#)

Creating C++ Source Code for NLTV IBIS-AMI Models

Using the methodology promoted, the NLTV AMI model code is primarily a generic interface to the custom library models.

[SerDesDesign Creating the NLTV AMI Model Code.pdf](#)

Building 64-Bit Linux AMI Models

[SerDesDesign Building 64-bit Linux AMI Models.pdf](#)

Debugging IBIS-AMI Models used in a Channel Simulator

[SerDesDesign Debugging AMI Models on Windows.pdf](#)

Terms and Conditions

See terms and conditions for IBIS-AMI Modeling are at this link: [Terms & Conditions | Privacy Policy](#)