

INTRODUCTION

This document is intended to help design hearing instruments with Gennum's PARAGON™ DIGITAL hybrids. It outlines steps that should be taken during that process. Please note that relevant information is contained in a number of documents available from Gennum Corporation. Hyperlinks to those documents as well as the documents' numbers are provided here.

IMPLEMENTATION GUIDE

1. Familiarize yourself with the data sheets for a particular PARAGON™ DIGITAL hybrid you are planning to implement in your design. Those data sheets are posted on the [PARAGON™ DIGITAL](#) page. Each PARAGON™ DIGITAL has hardware and PAL (Product Abstract Layer) data sheets. It is also recommended to read [PARAGON™ DIGITAL Reference Guide](#), document #20143 to become familiar with the features of Gennum's PARAGON™ DIGITAL hybrids.

For example, if you are going to use the GB3215 please read:

- [PARAGON™ DIGITAL Four Channel DSP System with FRONTWAVE®](#), document #22735
- [PARAGON™ DIGITAL S03 PAL Configuration](#), document #23381
- [PARAGON™ DIGITAL Reference Guide](#), document #20143

2. Download [ARKbase](#) from Gennum's website. Install it on your computer. For detailed explanation of the ARK concept refer to [PARAGON™ DIGITAL Reference Guide](#), document #20143 and [The ARK White Paper](#), document #12031.

3. For initial evaluation of the PARAGON™ DIGITAL product use the Interactive Data Sheet. Choose provided in the package Demo Libraries and then select Product.

4. After product functionality is well understood use ARKonline™ web tool to create manufacturer specific Library. Apply for password to the web based ARKonline™ to allow access to the ARKonline™ Library Manager. Refer to [The ARKonline Quick Start Guide](#), document #17931, for detailed instructions.

5. If desired transducer is not available in the ARKonline™ database, or more accurate transducer model is required (for tubing and faceplate effects), use the Modeler software installed on your personal computer. Detailed information

about the Modeler software is available in [Modeler Software Guide](#), document #17810. It is necessary to run the Frye FONIX 6500 Configuration software to configure the FONIX on your computer, prior to use of the Modeler software.

6. Use ARKonline™ Library Manager to fine-tune libraries (e.g. change transducer models created in the Modeler Software). Use transducer models created in the Modeler software.

7. Using the ARK Component Manager register new libraries in to the Windows environment (for instructions on how to do it refer to [The ARKonline Quick Start Guide](#), document #17931).

8. Start the Interactive Data Sheet and select just created library to verify configuration. When satisfied with the results save configuration in the .ids file.

9. Open Cal/Config software in engineering mode. In Memory Configuration box select saved in the built above .ids file. Select desire options. Save Cal/Config .cic configuration file. See [Cal/Config Software Reference Guide](#), document #17930, for detailed information.

10. Change Cal/Config software mode to production mode. In Select Configuration drop down box select the name recently saved .cic file. Calibrate and configure hearing instrument by clicking Go. Cal/Config software can also calibrate the FRONTWAVE® directional system embedded in selected PARAGON™ DIGITAL hybrids. To learn more about the FRONTWAVE® please refer to [FRONTWAVE® in PARAGON™ DIGITAL](#), document #17769, information note.

11. Perform hearing instrument evaluation using the Interactive Data Sheet as a programming interface.

12. Copy ARK Product Component Libraries to your specific fitting software and modify your software interfaces to accommodate designed functionality.

If you are using the GB3211 PARAGON™ DIGITAL hybrid it is recommended that you read [Using the GB3211 PARAGON™ DIGITAL in High Power Applications](#) information note, document #24561. It provides guidelines for designing high gain, high power circuits based on the GB3211 hybrid.

Also, for guidelines on how to design biquad filters that are available on the PARAGON™ DIGITAL hybrids please refer to [Biquad Filters in PARAGON™ DIGITAL Hybrid](#) application note, document #20205.



DOCUMENT IDENTIFICATION
 INFORMATION NOTE

REVISION NOTES:
 New Document.

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