



Synchro/Resolver - Synchros and Resolvers are transformer-type voltage/current transducers that convert a shaft or other rotating device's angular position and/or velocity to a multi-wire AC electrical signal. Both deliver signals proportional to the Sine and/or Cosine of the shaft angle. A Resolver-to-Digital or a Synchro-to-Digital simulator is used to convert digital angle/velocity commands to corresponding Synchro/Resolver AC signals.

Simulation

Module	Description
DS8	1 Ch. SYN Output (90 RMS), Output 8.0 VA, Frequency 400 Hz
DSA, DRA	2 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 47 – 1,000 Hz
DSB, DRB	2 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 1,000 – 5,000 Hz
DSC, DRC	2 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 5,000 – 10,000 Hz
DSD, DRD	2 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 10,000 – 20,000 Hz
DSE, DRE	2 Ch. SYN/RES Output (28-90 RMS), Output 1.5VA, Frequency 47 – 1,000 Hz
DSJ, DRJ	3 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 47 – 1000 Hz
DSK, DRK	3 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 1,000 – 5,000 Hz
DSL, DRL	3 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 5,000 – 10,000 Hz
DSM, DRM	3 Ch. SYN/RES Output (2-28 RMS), Output 1.5VA, Frequency 10,000 – 20,000 Hz
DSN, DRN	3 Ch. SYN/RES Output (28 – 90 RMS), Output 1.5VA, Frequency 47 – 1,000 Hz

Features

A wide variety of DS and DR modules are available to cover the range of excitation voltages/frequency, include extensive field-parameter programmability, and provide a full operating envelope choice for simulating virtually any type Synchro or Resolver. By eliminating the need for external transformers and operating with lower AC reference frequencies, these solid-state designs offer huge space savings

Built-In Test (BIT) / Diagnostic Capability

Two different tests (one on-line and one off-line) can be selected.

The Online (D2) Test initiates automatic background BIT testing that checks the output accuracy of each channel by comparing the measured output angle to the commanded angle. Each channel is individually checked to an accuracy of 0.2° and each D/S Signal output is continually monitored. User can periodically clear to 00h and then read Test (D2) Verification register again, after 0.1 seconds, to verify that background bit testing is activated. Any failure triggers an Interrupt (if enabled) and the results are available in Status Registers. The testing is totally transparent to the user, requires no external programming, has no effect on the standard operation of the card, and can be enabled or disabled.

The (D3) Test initiates a BIT test that generates and tests 24 different angles to a test accuracy of 0.2 °. Results can be read from registers. External reference is required, and outputs must be on. Any failure triggers an Interrupt (if enabled). Testing requires no external programming and can be initiated or stopped at any time.

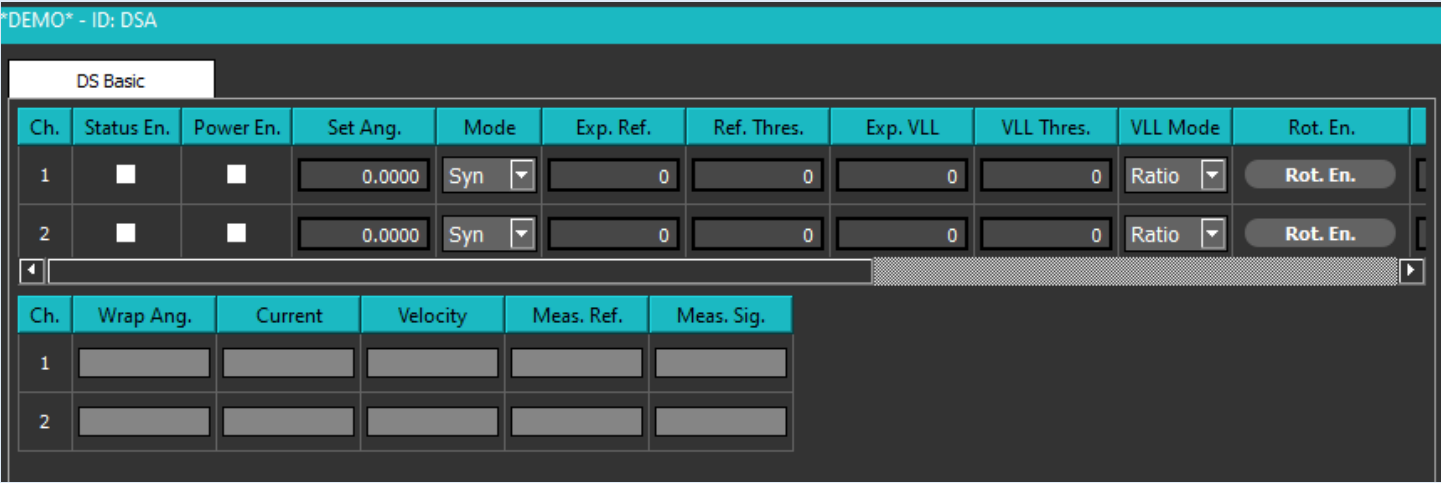
New Embedded Soft Panel

North Atlantic Industries offers the newest cross platform (Windows and Linux) GUI for our Gen 5 products that allows a user to quickly interact with our broad range of modular, I/O cards and rugged embedded computing products. Embedded Soft Panel 2 (ESP 2) is coherent and easy to use with a clean, fleshed out UI with features such as drag and drop dock able windows, a dark and light theme, and multi-language support. Multiple ways to open a board are

offered, including saving board opening settings for future use. Interacting with and collecting information on hardware is simple to do with the register editor for reading and writing specific addresses, and the API logger which logs all API library calls including their return status and parameters. ESP 2 has many new features and provides an organized and effortless interface for NAI's next generation products. Available for CentOS 7.4 and 8.2 and Windows 10 x64



Synchro/Resolver Simulation Example - Module DSA Demo Mode Screen Shots



Rot. Rate	Rot. Stop	Rot. Mode	Current Thres.	Phase Offset	M-S Ratio
0	0	Continous	0	0.0000	0
0	0	Continous	0	0.0000	0

Status						
Ch	Ref Loss	Sig Loss	BIT	Ph Lock	Rot	OC
1	D L	D L	D L	D L	D L	D L
2	D L	D L	D L	D L	D L	D L
All	Clear	Clear	Clear	Clear	Clear	Clear

Module Settings	Temperature Panel	Interrupts	Test Settings			
<div>Celsius ▼</div>	Current Core	Current Board	Max Core	Min Core	Max Board	Min Board
Motherboard	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Module	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Module Settings	Temperature Panel	Interrupts	
Channel	1	2	All
Type	BIT ▼	BIT ▼	BIT ▼
Enable	<div> <div>BIT</div> <div>Sig</div> <div>Ref</div> <div>Phase</div> <div>Rot</div> <div>OC</div> </div>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Edge/Level		Edge ▼	Edge ▼

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 Rev. A