SUBINITIAL LLC

Getting Started with **stacks**
A Step-by-Step Guide

1. **CONNECT** the Stacks Core to your Decks, then connect the Stacks Core to your network. Connect the power. The default IP address for the Stack is 192.168.1.49. Ensure you can ping this address. Now, pull up the Stacks Feature Matrix for reference.
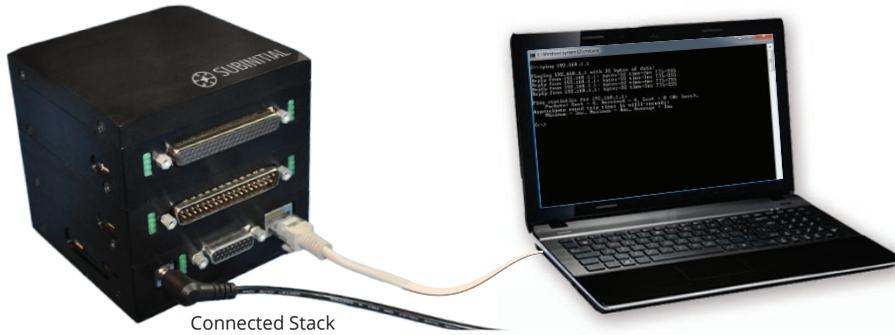
Connected Stack
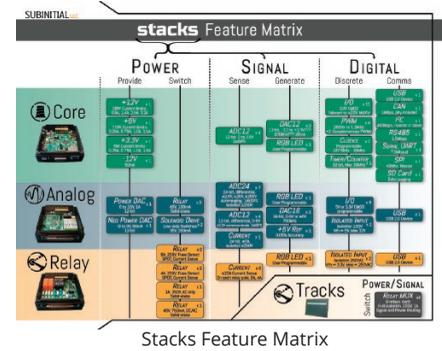
Stacks Feature Matrix

For more details getting your Stack on the network, check out the Stacks Connectivity Troubleshooting Guide.

2. **IDENTIFY** feature blocks necessary to test your DUT (Device Under Test). Determine the necessary connections from the Stack to the DUT. An example is pictured below:

Core
- CAN
- SPI
- SERIAL UART
- +12V
- +3.3V

Analog
- POWER DAC
- DAC16
- ADC24

Relay
- RELAY
- ISOLATED INPUT

tracks
RS485 CONTROL

DUT

- DC POWER INPUT
- COMMS BUSSES
- ADC INPUTS
- SOLENOIDS
- 120VAC INPUT

Tip: To route a feature block to multiple pins or one pin to multiple features, consider using Tracks.
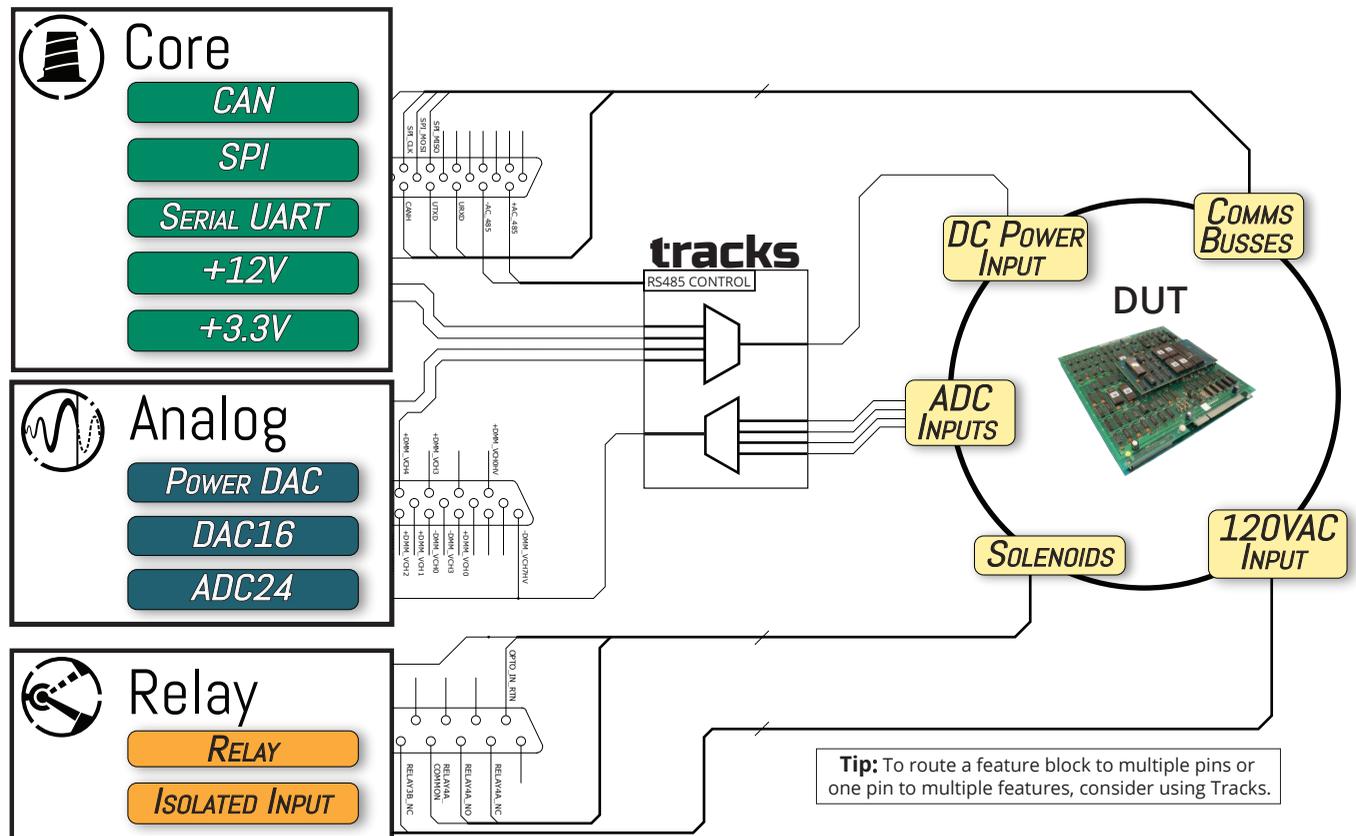
For more details on connectivity, see the pinouts in the Datasheets.

3. MAKE the connections for the test.
Connect directly with custom cables for your DUT, or use breakout boards.

DUT
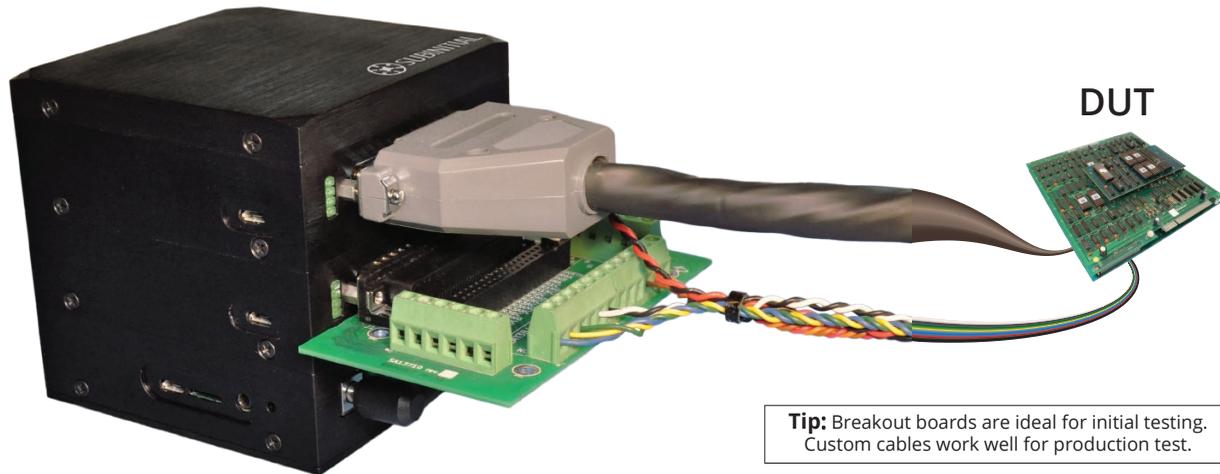
Tip: Breakout boards are ideal for initial testing. Custom cables work well for production test.

4. WRITE your test procedure in Python
using the Subinitial Python library for easy access to the Stack's functionality.

Alternately, write a script in any language and use Modbus TCP to interface to the Stack via the Stack's Modbus register set.

For more details on Python scripting for Stacks, see our example Python scripts.

5. RUN your test, collect your data, view your results.

	Time (s)	DAC16 (V)	Frequency (kHz)	Heater Current (A RMS)	Temp (C)
2	1	-4.9000	19.967	-9.78	25.00
3	2	-4.8000	19.768	-9.49	34.07
4	3	-4.7000	19.391	-9.11	42.35
5	4	-4.6000	18.839	-8.67	49.72
6	5	-4.5000	18.117	-8.15	56.11
7	6	-4.4000	17.232	-7.58	61.48
8	7	-4.3000	16.191	-6.96	65.82
9	8	-4.2000	15.005	-6.30	69.15
10	9	-4.1000	13.683	-5.61	71.51
11	10	-4.0000	12.237	-4.89	73.00
12	11	-3.9000	10.681	-4.17	73.69
13	12	-3.8000	9.029	-3.43	73.71
14	13	-3.7000	7.296	-2.70	73.17
15	14	-3.6000	5.496	-1.98	72.20
16	15	-3.5000	3.648	-1.28	70.91
17	16	-3.4000	1.766	-0.60	69.42
18	17	-3.3000	0.132	-0.04	67.85
19	18	-3.2000	2.028	-0.65	66.28
20	19	-3.1000	3.907	-1.21	64.79
21	20	-3.0000	5.750	-1.72	63.44

Transducer Bias Command

Transducer Current

Transducer Output Frequency

Transducer Temperature

For more details on saving your results, see our example Python scripts.

6. Got another design to test? Repeat steps 2 through 5 to automate all your test procedures.

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