

## Bode using LAN

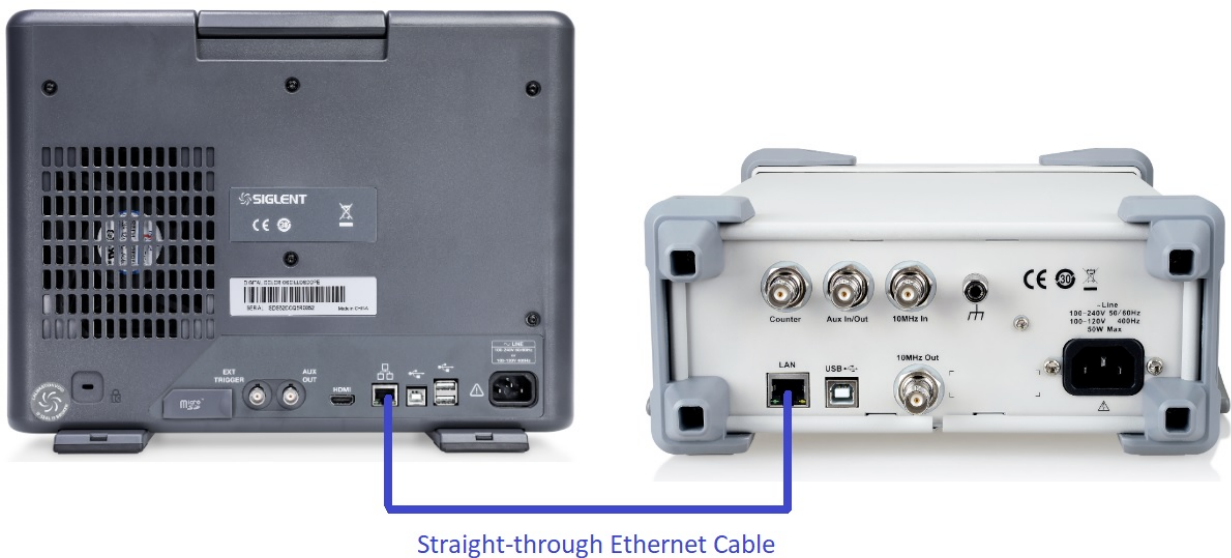
October 13, 2022

Many SIGLENT SDS oscilloscopes, including the SDS6000A series, can perform automated Bode plotting to provide frequency response for [power supply stability](#), [filters](#), and more. This integrated approach simplifies testing and delivers results much more quickly than building your own system, integrating separate instruments with software and an external controlling computer.

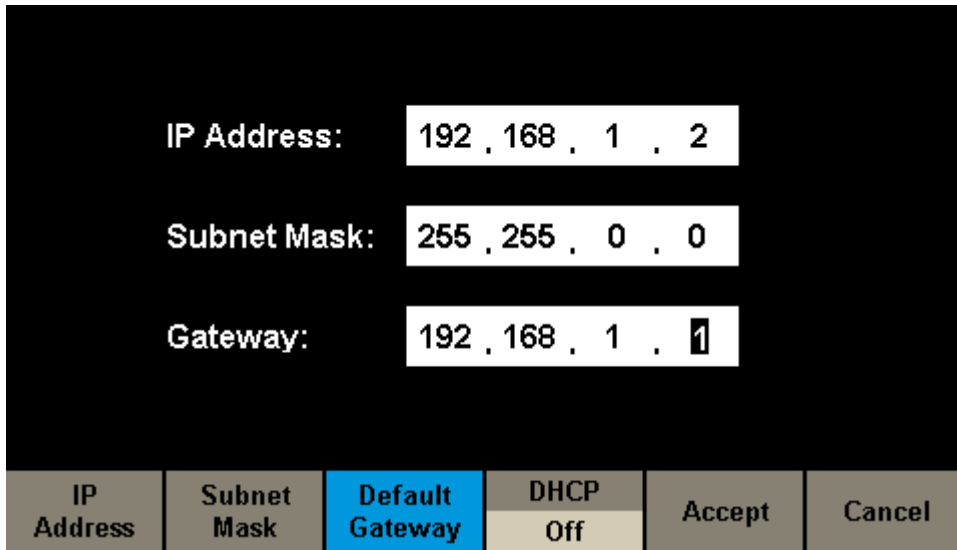
In the examples above, we used USB to connect the controlling oscilloscope to the external function generator.

In this operating tip, we show how to connect a SIGLENT SDS6000A oscilloscope and an SDG1000X series arbitrary waveform generator using a direct LAN connection for use with the SIGLENT Bode application.

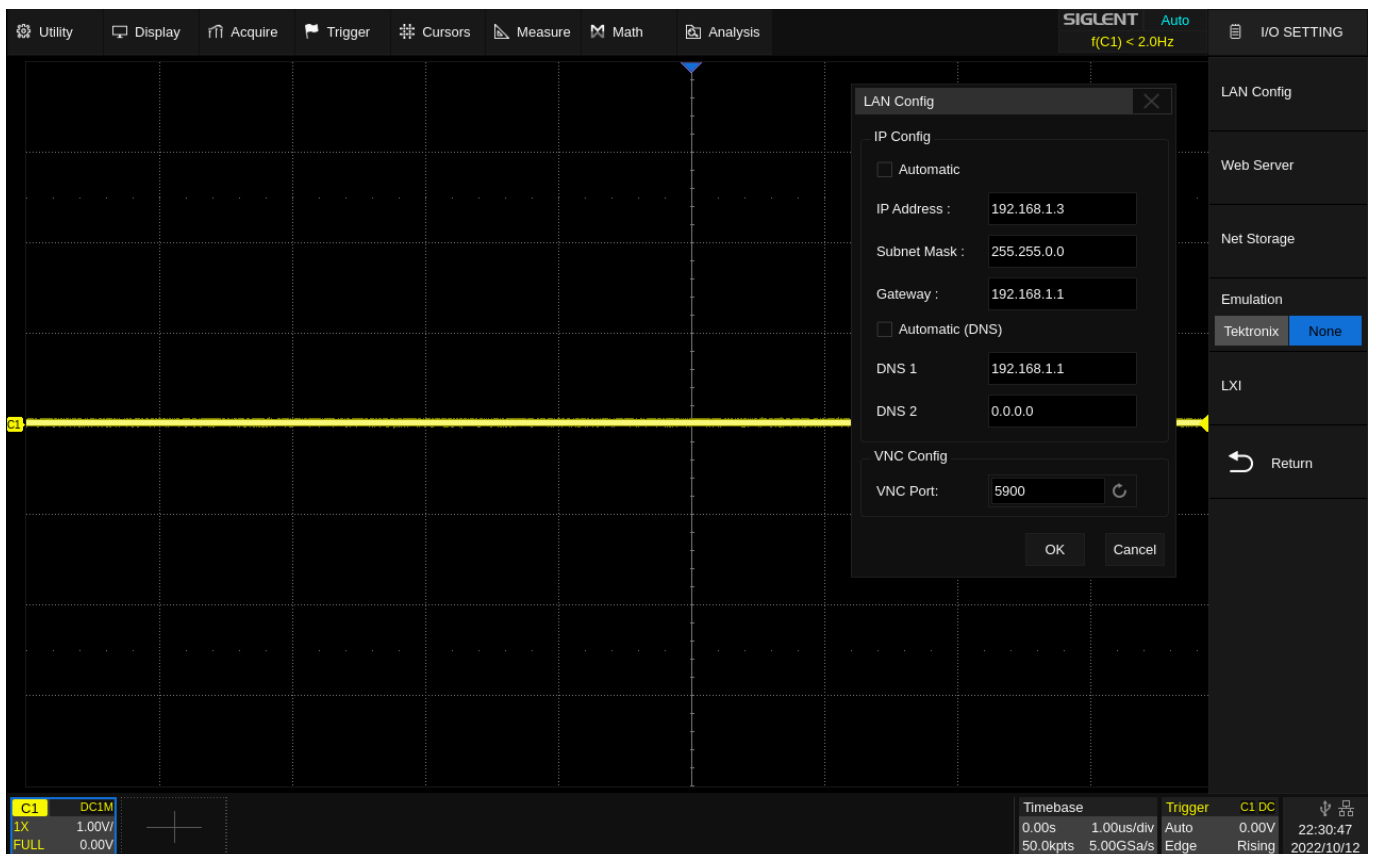
1. Connect the LAN port of the scope to the LAN port of the SIGLENT SDG generator:



2. Set the full IP address, Subnet mask, and Gateway for the SDG by entering the Interface menu (SDG1000X Press Utility > Arrow over to page 2/2 > Interface > LAN state ON and press LAN Setup):



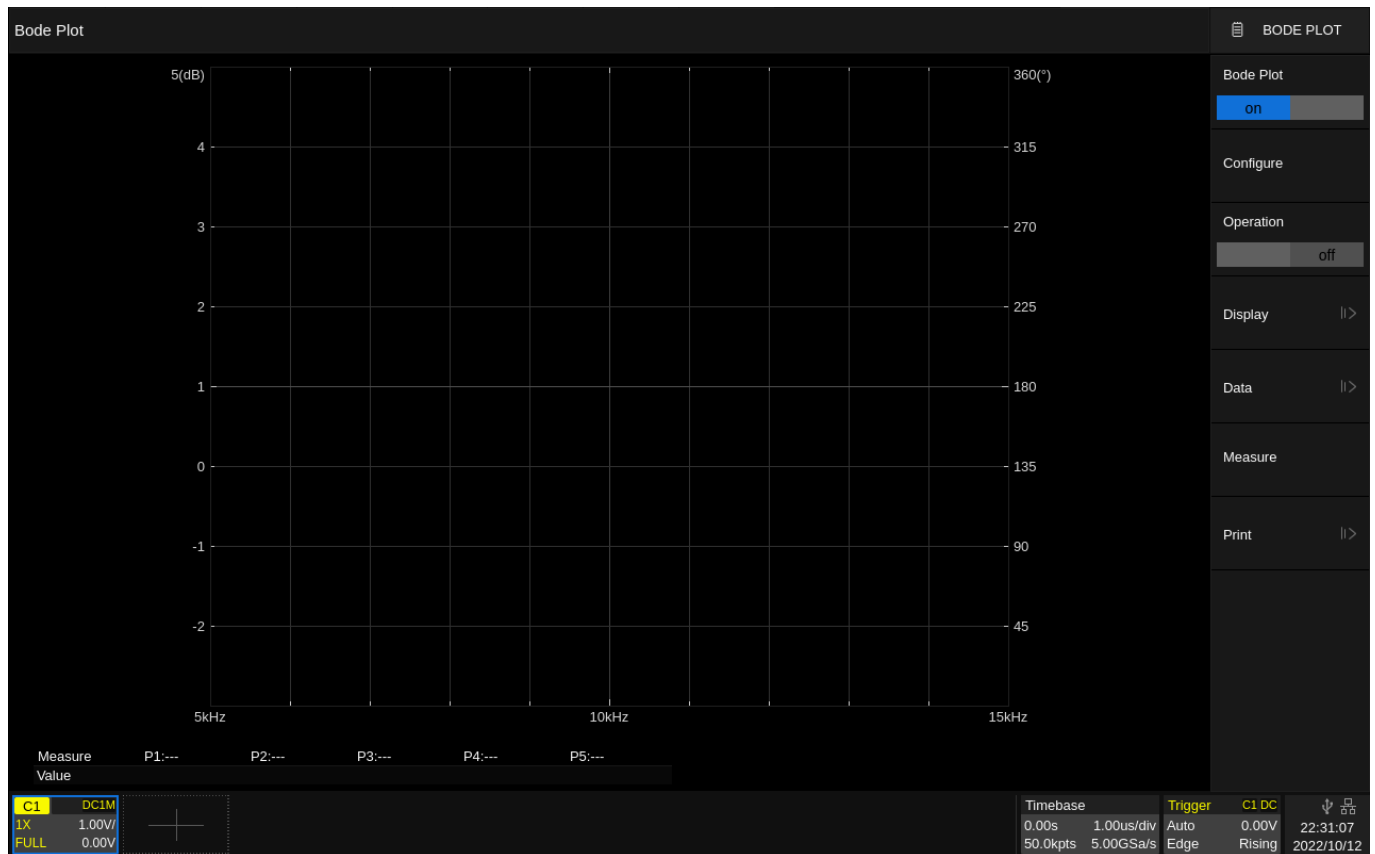
3. Set the full IP address, Subnet mask, and Gateway for the SDS scope (SDS6000A Press Utility > I/O > LAN Config):



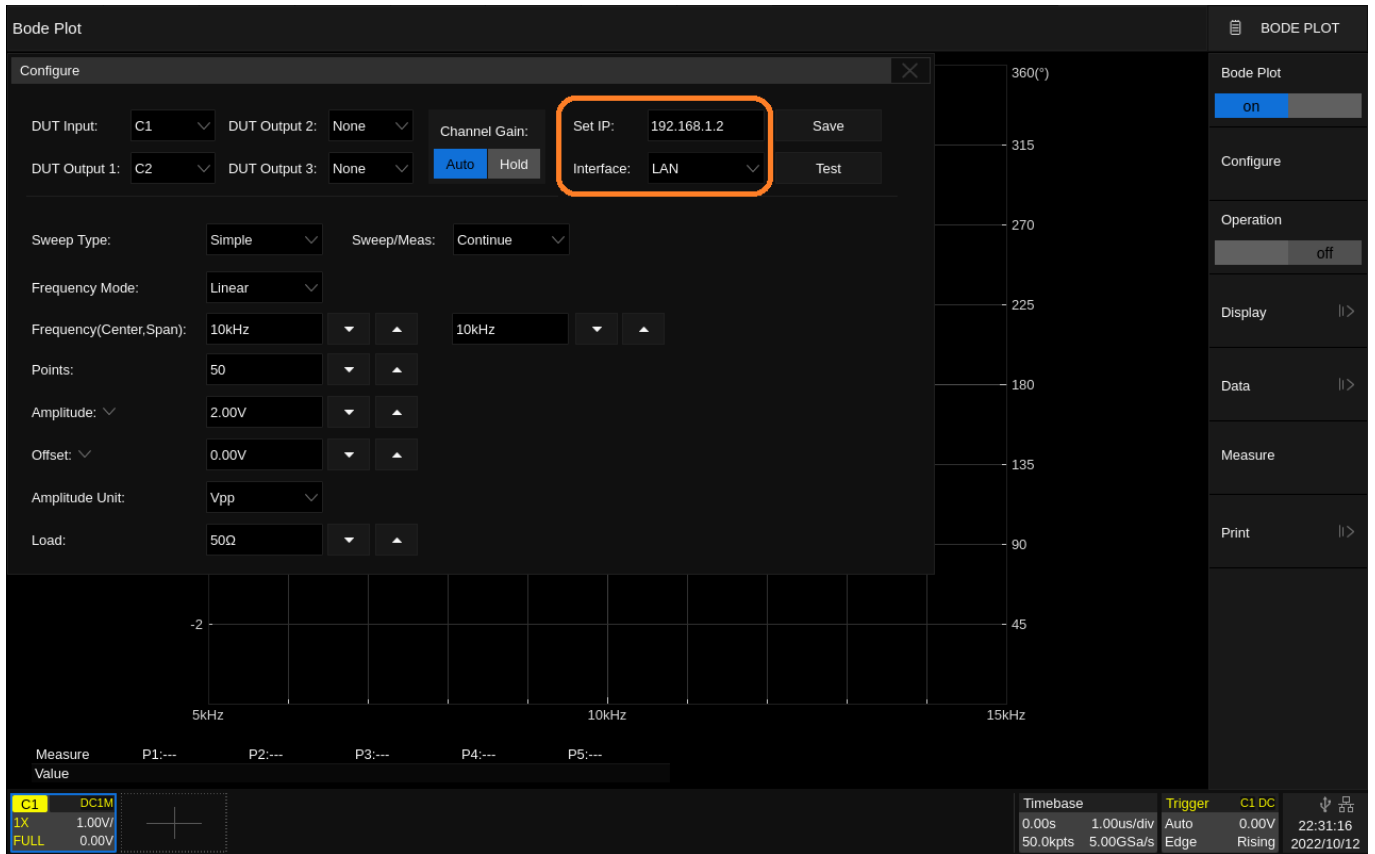
NOTE: The Gateway and Subnet Mask values for both instruments need to be identical. The first three triplets of the IP address must also be the same. If they are not, the connection will fail.

4. Set the function generator IP address in the Bode II application by opening the Bode menu. On the SDS6000A, press Analysis > Bode.

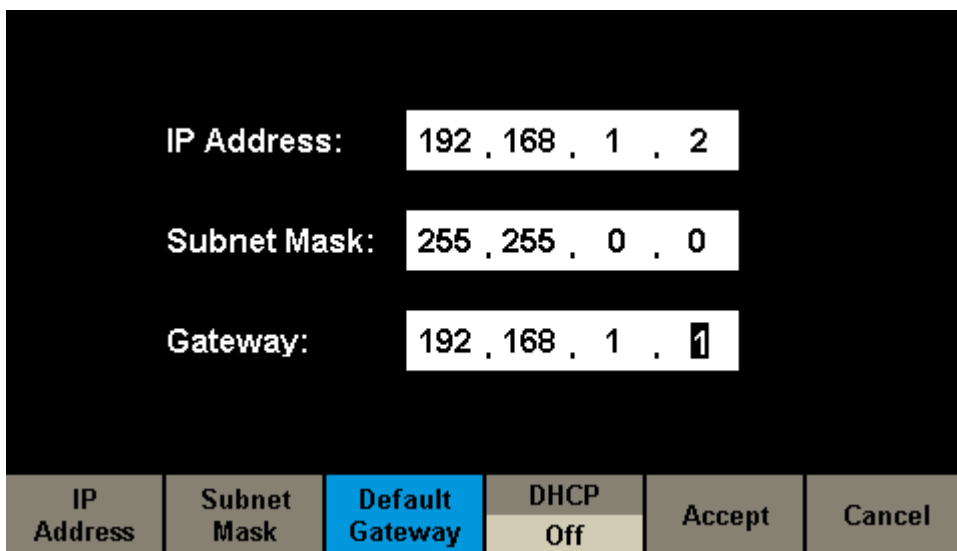
That will open the Bode menu as shown:



Select Configure> Set the interface as LAN and set the IP address **of the generator** into the text box:



Here is the generator LAN configuration page, for reference:



5. Test the connection by pressing Test:

The screenshot shows the Siglent Bode Plot configuration interface. A 'Configure' dialog box is open, allowing users to set various parameters for the Bode plot. The parameters include DUT Input (C1), DUT Output 1 (C2), DUT Output 2 (None), DUT Output 3 (None), Channel Gain (Auto/Hold), Set IP (192.168.1.2), Interface (LAN), Sweep Type (Simple), Sweep/Meas (Continue), Frequency Mode (Linear), Frequency (Center, Span) (10kHz), Points (50), Amplitude (2.00V), Offset (0.00V), Amplitude Unit (Vpp), and Load (50Ω). A message 'AWG connected successfully.' is displayed in the center of the plot area. The bottom status bar shows measurement values for C1, DC1M, IX, FULL, and various settings like Timebase, Trigger, and C1 DC.

Once you have the connection working, you can configure your Bode plot and start taking data.

The most common problems center around cabling. Are they connected to the proper instruments? Proper ports? Are the cables ok?

Other issues tend to center around the LAN settings. Check them again before contacting support for additional help.



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