

Products for **MEASURING POWER**

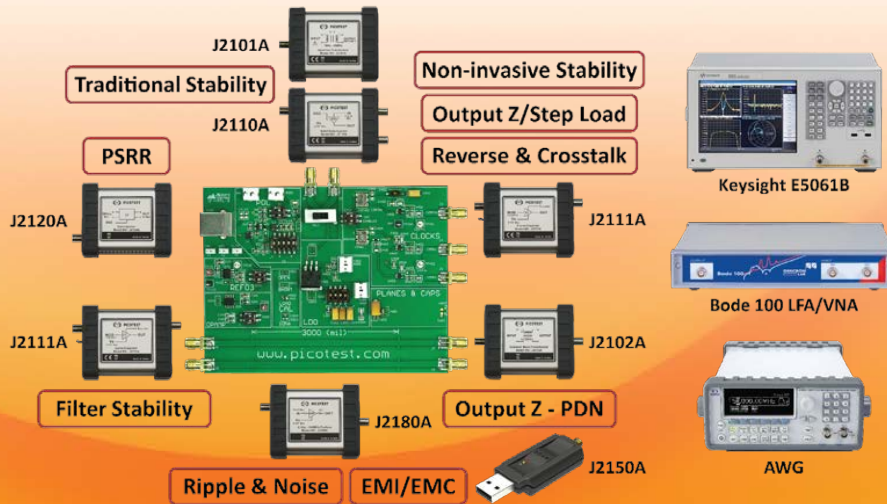
Test Equipment for Power Integrity, Stability, Impedance, PSRR, Step Load, EMI, PDN, and Noise Measurement



Picotest Signal Injectors

Powering Your Measurements with Higher Fidelity

Signal injectors provide the interface between your test equipment and the device under test. They are essential for obtaining high resolution and high fidelity power supply, voltage regulator and Power Distribution Network (PDN) measurements. Our signal injectors enable high fidelity stability, step load, noise, PSRR, PDN, EMI, reverse transfer, crosstalk, impedance (power supplies, opamps, ESR, DCR, batteries), and DC bias (inductors, opto-couplers, diodes) measurements. They can be used with any manufacturer's oscilloscope, network analyzer or spectrum analyzer.



J2100A/J2101A 1-5MHz/10-45MHz Injection Transformers

- High quality wide bandwidth, vastly superior to audio/video transformer solutions for gain/phase measurements
- J2100A supports PFC regulators & most power supplies
- J2101A supports off-line power supplies and voltage regulators

J2102A Common Mode Transformer

- Greatly attenuates the effects of low frequency ground loops
- Supports the 2 Port Shunt Thru impedance measurement required for Power Distribution Networks (PDNs)
- Maintains 50 Ohm transmission line integrity to approximately 500MHz

J2110A DC-45MHz Solid State Voltage Injector, Bode Box

- DC-45MHz supports high performance control systems and amplifiers impedance and gain/phase measurement
- Low distortion non-mixing front end
- 25 Ohm insertion resistance
- 50 Ohm oscillator input
- < 3uA typical bias current
- >2 MΩ typical input resistance

J2111A/J2112A DC-40MHz Solid State Current Injector

- Ultra-fast rise and fall time for transient step loading
- DC-40MHz usable range (interconnection dependent)
- J2111A works with positive or negative power supplies
- Measures Output Impedance for Non-invasive Stability/Phase Margin
- Controllable Load Step Profiling
- Works with arbitrary waveform analyzers, function generators and network analyzers
- 100mA (J2111A) and 1A (J2112A) versions

J2120A Line Injector

- Allows the measurement of PSRR, ripple rejection and conducted susceptibility
- 10Hz-10MHz usable bandwidth
- 5 Amp maximum current
- 50VDC max input

P2130A DC Block/J2130A DC Bias Injector

- P2130A 500Hz - 6GHz / J2130A 10Hz-10MHz
- AC coupled 1-Port and 2-Port impedance measurements
- Useful for measuring capacitor voltage sensitivity (especially for X5R dielectric), varactors and junction capacitance
- Bias low power transistor amplifiers and diodes for parameter extraction

J2140A 10dB/20dB/40dB Cascadable Attenuators

- Integrated unit includes 40dB, 20dB and 10dB
- Cascadable for attenuation up to 70dB
- Improve noise floor and assure small signal measurement

J2180A Preamplifier

- Provides a fixed, AC coupled 20dB gain
- 1 MOhm input impedance compatible with typical probes minimizes circuit loading
- 50 Ohm output impedance
- 0.1Hz to 100MHz 3dB bandwidth
- Improves the sensitivity of oscilloscopes, network analyzers and spectrum analyzers
- Improves the noise floor and spurious response
- Works with all scopes, spectrum analyzers and VNAs
- Active DC bias loop maintains low DC output voltage

Picotest offers a comprehensive line of high fidelity test equipment for all types of power supply and power integrity measurements including a VNA/FRA, specialized signal injectors (test adapters) and other general purpose equipment.

OMICRON Lab Bode 100 More Than Just a Vector Network Analyzer



Obtain Phase Margin from an Impedance Measurement!

The Bode 100 is a Frequency Response Analyzer, Vector Network Analyzer and Impedance Analyzer **all in one**.

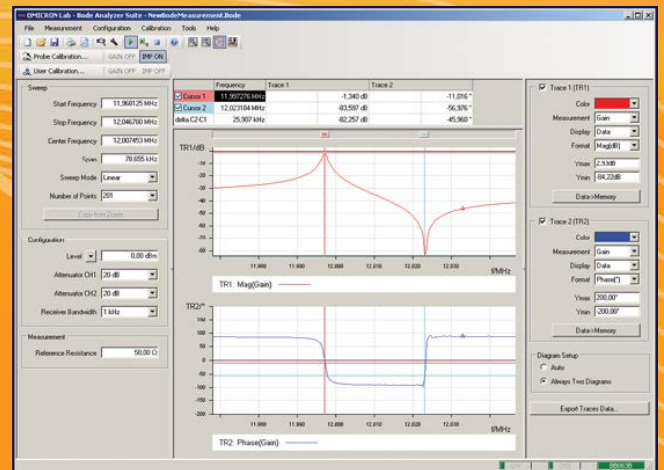
- Vector Network Analyzer (1Hz – 40MHz)
- Gain phase / Bode plot analyzer
- Impedance analyzer
- S-Parameter measurements

Key Features:

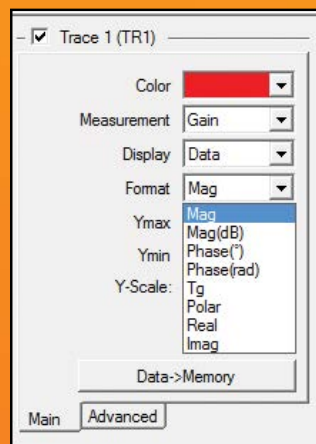
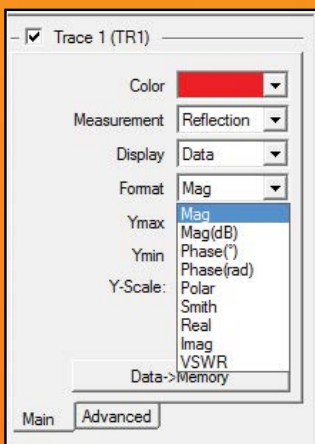
- Easy to use, software interface
- Unbeatable price-performance ratio
- Imports directly to desktop publishing tools
- Compact and portable
- Standardized automation interface with MATLAB** or Excel**
- 120dB dynamic range
- Works with Labview

Wide Variety of Applications

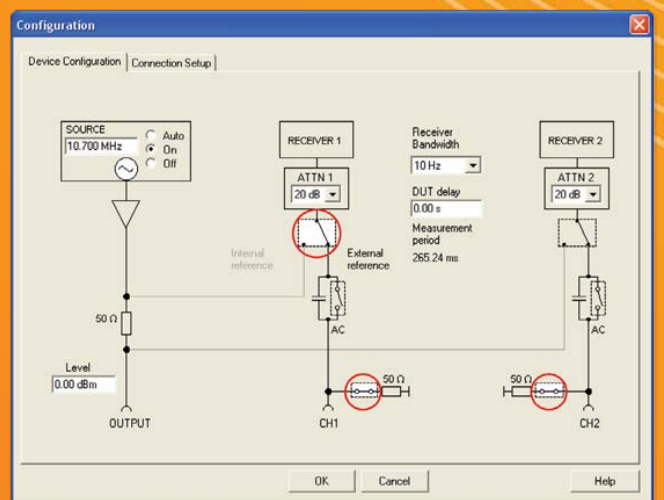
- Measure components, e.g. capacitors and inductors
- Measure impedance for PDN
- Measure filters, amplifiers and much more



The Bode 100 Analyzer Suite software.

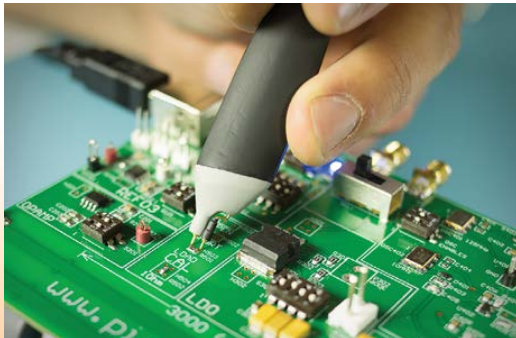


See what you want...how you want.



Simple graphical control panel.

1 Port & 2 Port “PDN” Probes



1 Port PDN Transmission Line Probe

Two New 1 Port and 2 Port PDN Multipurpose probes are available from Picotest. These true 50Ω transmission line probes support a variety of measurements and offer some significant advantages.

Multiport Technology

The 1 port and 2 port PDN handheld probes allow easy access to the circuit and maintain a true 50Ω transmission line characteristic from the VNA to the signal being measured. The 1 port probe can be used to measure the impedance using the 1 port reflection method and the 2 port probe can be used to measure the impedance using the 2 port shunt thru method. You can use the probes, along with the OMICRON Lab Bode 100, to measure control loop stability, non-invasively, even when there is no feedback loop access. The probes work for regulators, POLs, converters and voltage references.



2 Port PDN Probe and P2130A DC Blockers

These probes have other uses as well. For example, the 1 port probe allows the measurement of ripple and noise with optimum signal to noise ratio (SNR). The 2 port probe transmits a load current step through one port, while measuring the response from the other port simultaneously, thus greatly simplifying the load transient analyses. The probes can both be used to inject noise for the assessment of sensitivity to the power supply for circuits such as clocks and LNAs. The probes are supported by a wide range of signal injectors and accessories, such as DC Blockers, preamplifiers and high speed current injectors.

Supports Measuring:

2 port impedance and PCB resonances, Step Loading, Clock Jitter, TDR/TDT Testing, Non-invasive Measurements, Ripple and Noise Injection

EMI/EMC Test Bundle

The EMI probe set, ultra-low noise preamp, and new USB harmonic comb generator provide a unique EMI test solution for a variety of applications. The Harmonic Comb Injector is a fast, easy-to-use, ultra-portable signal generator for interrogating your PDN to reveal resonances in power supply and voltage bus designs (power integrity) and identifying noise sensitivities. It also has interesting uses in EMC measurement and troubleshooting, as well as clock jitter testing. The Comb Injector has several unique features that really set it apart from all other comb generators. Sized as a USB thumb drive, the J2150A derives 5V power from any USB port. It has five different frequency modes, from 1 kHz to 8 MHz. Several of the modes are time and frequency “dithered”, so as to help fill in the gaps between harmonic combs. Mode 1 steps through three different frequency steps (1 kHz, 100 kHz, and 8 MHz) in order to better reveal circuit resonances. The EM-6992 Hand Held EMI Probe Set is designed to assist in pinpointing the specific source of emissions during the diagnostic testing phase of an EMI compliance investigation. A selection of probes of varying sensitivities is provided for both E-field and H-field analysis up to 1000 MHz.

Features:

- New J2150A USB Wideband Harmonic Comb Injector spans 1kHz-1GHz+
- J2180A Ultra-low noise 0.1Hz-100MHz preamp
- Handheld EMI Probe Set
- Multiple loop sizes offer optimum sensitivity and spatial resolution at different frequencies
- J2150A generate fields for electromagnetic susceptibility testing
- Great for clock power supply EMI spectrum testing

