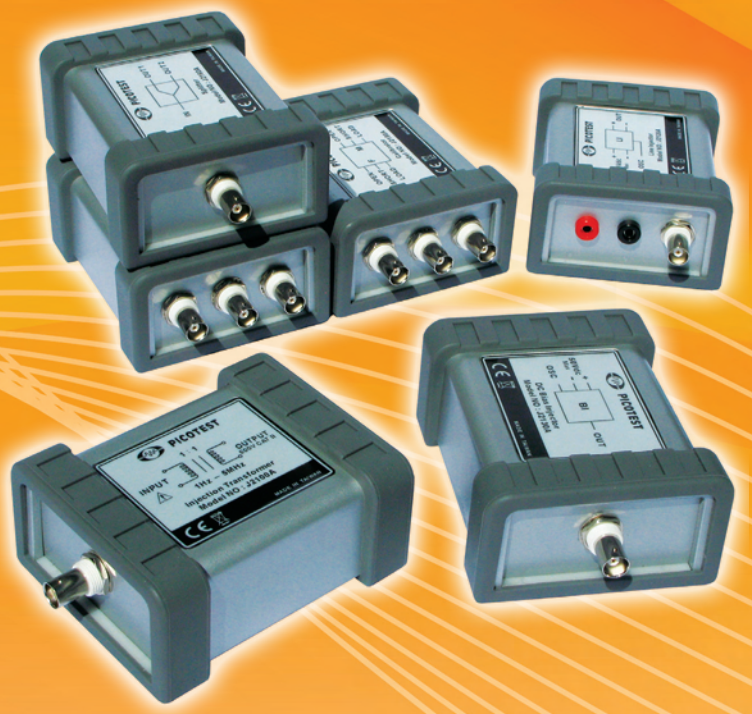
Test Signal Injectors

Accessories to Sharpen Your Analyzer's Focus

Benefits

Insures measurement accuracy in:

- PSRR
- Step Load
- Bode
- Filter Stability
- Output Impedance
- Reverse Transfer
- Input Impedance
- Crosstalk



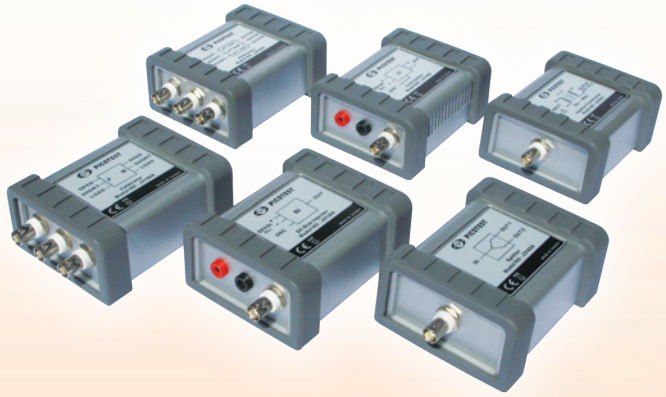
Reduces test & feedback signal distortion

Supports higher bandwidth measurements

PICOTEST

www.picotest.com
(877) 914-7426

The Picotest line of signal injectors is the most versatile and sophisticated set of test adapters ever developed. They are an essential part of getting the most out of your network and impedance analyzers whether you are measuring power supplies, regulators, other linear circuitry or components. Our signal injectors outperform the competition with greater bandwidth, lower distortion and flat out better performance. Unique to the product line are two solid state injectors (voltage and current) and a line injection adapter ideal for measuring PSRR. The Picotest line of signal injectors can be used with any manufacturer's test equipment.



Why you should use high quality injection transformers
Not all injection transformers are capable of the small-signal wide bandwidth measurements required for a good Bode plot. Some believe that audio and video transformers can be used and that the transformer is not a part of the measurement. Both are untrue.

Injection transformers can't be used for PSRR measurement
Injection transformers use a very high permeability, specially annealed core material. The typical injection transformer, high quality or not, cannot operate with more than 5mA-10mA of DC current. Higher currents will provide incorrect results, but also can permanently bias the core rendering the transformer useless.

You need more bandwidth than you think
The bandwidth required for a proper Bode Plot or impedance measurement is generally several octaves above the control loop bandwidth, at a minimum. The typical linear regulator has a bandwidth of several MHz. This requires very high fidelity equipment in order to reveal the true performance.

J2100A 1Hz-5MHz Injection Transformer
- Bandwidth supports PFC regulators & most power supplies
- Low distortion for superior precision
- 5 Ohm termination for minimum impact to loop

J2101A 10Hz-45MHz Injection Transformer
- 10Hz supports off-line power supplies
- 45MHz high enough for even state of the art regulators

J2120A Line Injector
- 10Hz-10MHz usable bandwidth
- Low loss design
- 5 Amps maximum current
- 50VDC max input
- Easily measure input filters and PSRR

J2130A DC Bias Injector
- 10Hz-10MHz usable bandwidth Low loss design
- Easily measure varactors, junction capacitance
- Measure X5R capacitor voltage sensitivity
- Bias low power transistor amplifiers and diodes for parameter extraction

Use the right injector for the task at hand
For PSRR measurements the Picotest J2120A Line Injector is the injector of choice. For frequencies below 1Hz or above 10MHz consider using the J2110A Solid State Voltage Injector. In many applications where an electronic load is too capacitive, too slow and lacks the resolution necessary to measure the small-signal step load response and or output impedance, the J2111A Solid State Current Injector offers DC-40MHz performance, very low noise, 1uA or lower resolution, 20nSec rise and fall times and a precise, 40MHz 50 Ohm current monitor.

Measure your critical components
Many components do not perform as you might expect "in circuit", due to their operating point. One such example is the X5R ceramic capacitor. These capacitors are very sensitive to DC bias voltage, losing up to 60% of their value at rated voltage. It is also important to know the emission coefficient of diodes for both RF applications and power supply applications. This is a very simple measurement with the Picotest J2130A DC Bias injector and your analyzer.

J2110A DC-45MHz Solid State Voltage Regulator
- DC-45MHz supports controls and high performance amps
- Low distortion for superior precision
- 25 Ohm insertion resistance
- 50 Ohm oscillator input
- < 3uA typical bias current
- >2 MΩ typical Input Resistance
- High PSRR Low Noise Regulator with Universal input
- Ultra linear front end perfect for IMD measurement

J2111A DC-40MHz Solid State Current Injector
- High PSRR Low Noise Regulator with Universal input
- 20nSec typical rise and fall time
- DC-40MHz usable range (interconnection dependent)
- Two Quadrant Bipolar operation works with positive or negative source
- Build in offset for use with Network Analyzer
- Precision current monitor with 50 Ohm output
- Works with Arbitrary Waveform analyzers, Function generators and Network Analyzers
- Can be used to measure battery impedance