

# PICOTEST

洛克儀器股份有限公司  
Lock Instrument Co., Ltd.



Product specifications are subject to change without notice.

The J2111A Current Injector is the most versatile tool in the Picotest Signal Injector product line. Coupled with the G5100A AWG, or other equivalent function generator, it is capable of performing small-signal load steps up to 40MHz, with up to 20ns rise/fall times. Rise and fall times can be controlled and arbitrary waveforms can be used to drive the injector producing load current profiles of virtually any characteristic pattern. This is ideal for emulating all types of load conditions, including high speed digital circuit loading, battery discharge profiles, or spontaneous current spikes.

When coupled with a network analyzer, the Current Injector can be used to measure the output impedance of all types of circuits and systems including power supplies, voltage regulators, power buses, and batteries. It can be used to **non-invasively** measure the stability of a combined input filter /negative resistance of a switching power supply or the phase margin of a linear or switching regulator WITHOUT the need to break the control loop.

It also supports applications in the measurement and extraction of transistor data, including small signal current gain, Ft, and many other dynamic performance parameters. In RF and instrumentation circuits it can be used to provide constant current biasing for class A amplifiers and buffers.

#### The Ultimate Controllable Current Source

The Current Injector has two connections for the output current flow. The controlling input is an arbitrary user controlled DC+AC signal that can be taken from either a signal generator or network analyzer. A built-in bidirectional

bias current enables Class A operation for use with network analyzers.

The output current is reduced 40dB from the input signal, resulting in 10mA/V scaling. The current monitor output port is designed to be terminated into 50 Ohms and can be used with the network analyzer, an oscilloscope or a DMM to monitor the output current of the injector on a 1A/V scale.

#### KEY FEATURES:

##### J2111A Current Injector

- The versatile current source you can't be without; enables high fidelity load step, impedance, and stability measurements
- Enables non-invasive phase margin testing
- High speed load stepping current source - 20nSec edges
- DC-40MHz usable range
- Bi-Lateral operation works with positive or negative source
- Built in current offset for use with a network analyzer
- Precision current monitor with 50 Ohm output
- Works with any manufacturer's oscilloscope or network analyzer
- Current output easily controlled by any AWG or function generator
- Can be used to measure battery impedance
- Includes high PSRR low noise regulator with universal input
- Can be used to measure input filter stability

*Accessories to Sharpen Your Analyzer's Focus*

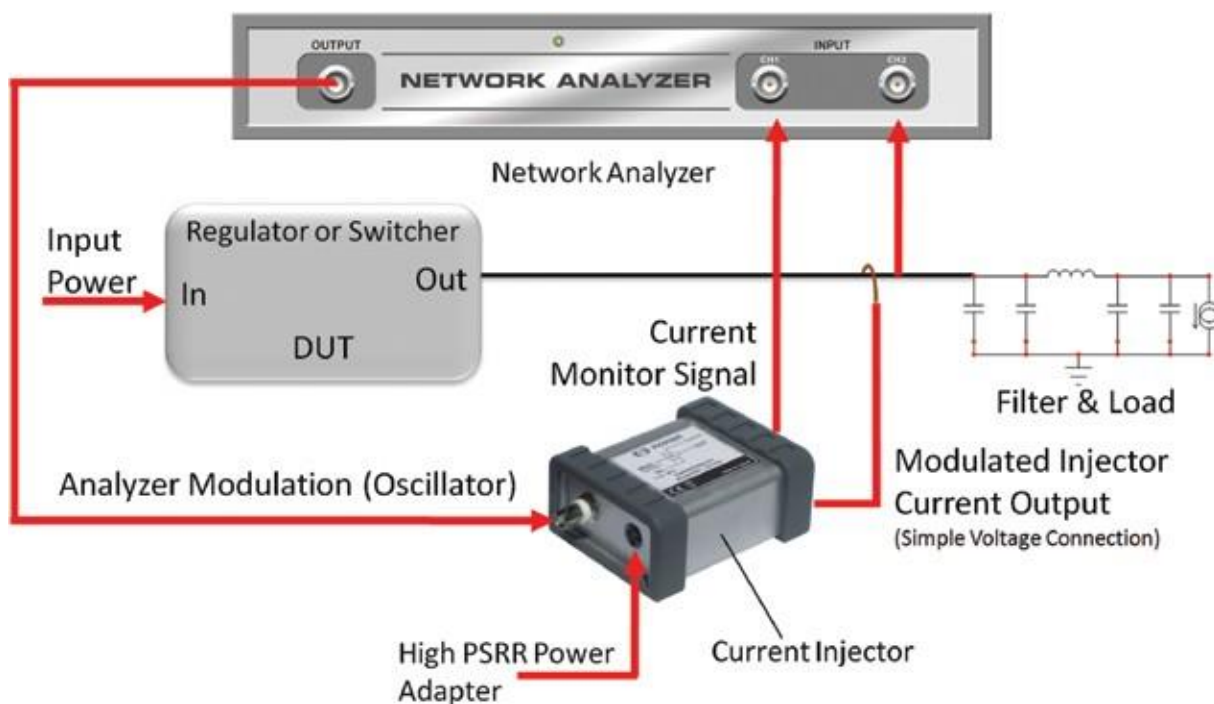
# J2111A Current Injector



Specifications		
Characteristic	Typical	Units
Output Current Variation (Controllable)	50	mA
Total Output Current Variation (Controllable+Bias)	74	mA
Max input voltage DC+AC	+/-5	A / V
Output voltage	40	V
Current Monitor	1	V / A
Modulator Gain	10m	A / V
Offset Current (typical)	+24m/0/-24m	A
Usable Bandwidth	DC-40M	Hz
Temperature Range	0 - 50	C
Maximum Altitude	6000	Ft

Mechanical characteristics	
Dimensions (box only)	109.22 mm x 89.66 mm x 50.80 mm 4.30" x 3.53" x 2.00"
(box + connectors)	122.68 mm x 89.66 mm x 50.80 mm 4.83" x 3.53" x 2.00"
Weight	0.210 kg / 0.463 lbs

Connectors	
Input	BNC, MOD - BNC
Output	Banana



The J2111A Current Injector supports Non-invasive phase margin measurements. You can actually use it to measure the stability of your power supplies WITHOUT having to break the control loop. Simply connect the Current injector output (+ and - leads) to the signal of interest and you can measure the impedance, stability, or step load response.

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**LOCK** 洛克儀器股份有限公司 Lock Instrument Co. Ltd

(台北公司) 235新北市中和區中正路764號6樓 TEL : 886-2-32346000

(新竹公司) 300新竹市北區光華二街72巷79號 TEL : 886-3-5324199

官方網站: [www.lockinc.com.tw](http://www.lockinc.com.tw) 網路商店: [www.pestore.com.tw/lock](http://www.pestore.com.tw/lock)