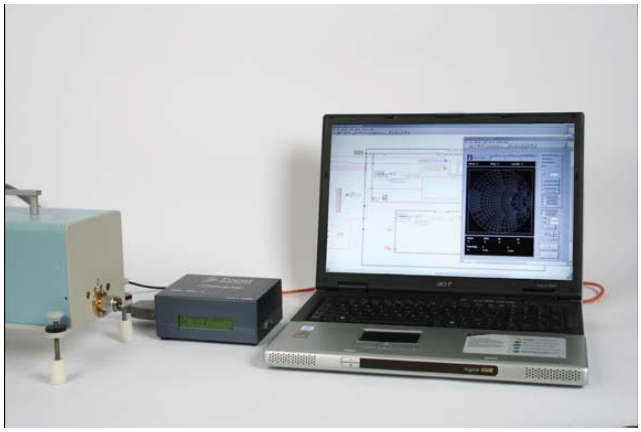
1603 St.Regis
D.D.O., Quebec H9B 3H7, Canada
Tel 514-684-4554 Fax 514-684-8581
E-mail: info@ focus-microwaves.com
Website: http://www.focus-microwaves.com

Product Note 80

*i*Converter

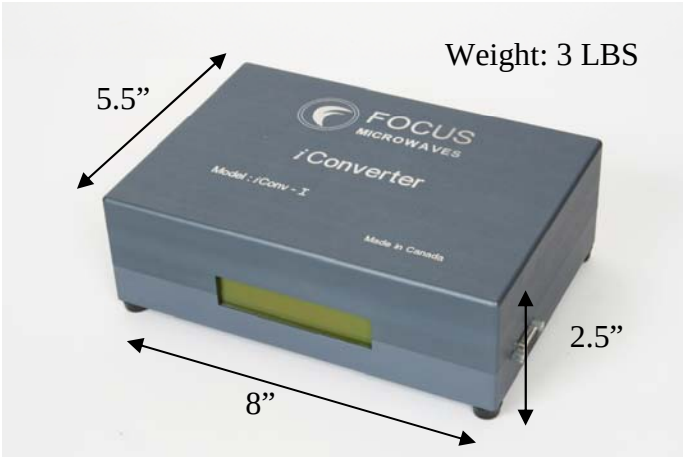
Upgrading electro-mechanical Tuners to ***iTuners***



The iConverter is an external compact controller, that contains the entire electronics and firmware of the iTuner and is designed to upgrade electro-mechanical tuners, such as ATS™ tuners of Maury Microwave, driven by MT986™ series tuner controllers, to iTuner capability. With the iConverter inserted between the system PC and the ATS™ tuners the latter can be calibrated and used as Focus iTuners.

The iTuner is an enhancement of electro-mechanical slide screw tuners that includes sophisticated control electronics, onboard micro-processor and tuning firmware. This allows the iTuner to become a self-contained and fully calibrated test instrument that is well suited for integration into both existing and new test stations.

The micro-processor inside the tuner is used to handle ASCII format communication via an industry standard TCP/IP interface and control up to six stepper motors. Complex mathematical operations of the onboard firmware include “tuning”, i.e. determining motor positions for user specified values of VSWR and impedances as well as reference plane shifting to accommodate test fixtures, adapters and terminations. Additionally, microstepping motor control allows acceleration-deceleration and virtually eliminates tuner vibration making the iTuner ideal for on-wafer measurements.



Specialized applications require independence from restrictive dedicated load pull characterization software, or even the Windows™ environment. For this reason the iTuner provides a raw TCP/IP interface that can be used with any socket programming language, or through any TELNET client program (Visual C++, Borland C++, C#, Agilent VEE™, LabView™ or other). Although the iTuner is fully calibrated with respect to its input and output port, the VSWR reference plane for testing is located at the DUT ports. The iTuner firmware allows reference plane shifting. Further, a non-perfect load impedance GLOAD, is taken into account when adjusting the reflection factor at the DUT reference plane.

A special group of commands allow constant VSWR testing while taking full advantage of the iTuners’ tuning and de embedding capabilities. During phase sweep VSWR commands re-adjust the vertical probe position to keep the VSWR seen by the DUT constant.

The iTuner offers
- Fundamental, Prematch and Harmonic tuning, including ActiveX for MPT.
- De-embedding, Constant VSWR tuning.
- Backlash compensation, pulsed width modulated motor current control.

Power Supply Specifications
Input (AC) 100-240V, 1.8A
Output (DC) 12V, 5A