

## Features - ESU-2050

- ◆ True RMS Readings Using DFA™ Technology
- ◆ mV, mV Peak, mA, Crest Factor and Wattage Displays
- ◆ Large Graphical Display with Backlighting & Cursor Selection of Options and Setup of Parameters
- ◆ 1% of Reading Level of Accuracy
- ◆ Digital Data Output Via USB and RS232
- ◆ Optional PC Based Software Adds Functionality, Versatility & Data Storage Capabilities
- ◆ Digital Calibration - No Pots to Turn
- ◆ Display Contrast is Software Adjustable
- ◆ On-Screen Graphical Representation of Generator Waveform with Scroll & Zoom Capabilities
- ◆ Standard Range Uses 0.1:1 RF Current Transformer
- ◆ Special Low Range Uses 1:1 RF Current Transformer
- ◆ Internally Protected Input Circuitry
- ◆ Capture, Store & Print ESU Generator Output Waveforms with up to 32,768 Discrete Data Points through the Specialized PC Software
- ◆ Internal Data Storage for Three Full ESU Waveform Data Sets
- ◆ Create Customized Load Resistor Table within the Instrument Based Upon the Load Resistors Commonly Used
- ◆ User Selectable Data Display Screens
- ◆ Smallest & Lightest Weight ESU

BC Group International, Inc.  
3081 Elm Point Industrial Dr.  
St. Charles, MO 63301 USA  
Phone: 314-638-3800 Toll Free: 1-888-223-6763  
Fax: 314-638-3200  
Email: [sales@bcgroupintl.com](mailto:sales@bcgroupintl.com)  
Website: [www.bcgroupintl.com](http://www.bcgroupintl.com)



# ESU Analyzer Series

## Features - ESU-2050



### ESU-2050

The ESU-2050 ESU Analyzer is the first instrument of its kind on the market. Designed through extensive collaboration with several of the world's leading electrosurgery generator manufacturers (including the worldwide market leader), the ESU-2050 is a highly accurate calibration-quality instrument intended for use by OEM factory technicians and field service engineers, as well as customers who desire to test their ESU generators in the exact same way the medical device manufacturers do. It is the only ESU Analyzer on today's market with a 1% of reading level of accuracy.

Patent Pending DFA™ Technology achieves the high level of accuracy and functionality demanded by ESU manufacturers worldwide, and replaces the Fluke® Model 8920A instrument previously utilized in such applications. The ESU-2050 uses external precision load resistors and an external wide band toroidal current transformer to take industry standard RF current measurements. It can function as a stand-alone meter or in conjunction with our optional PC Utility Software.

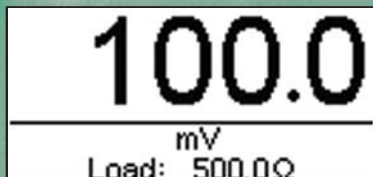
Measurement data, including RMS current, RMS voltage, Peak voltage, Power (watts), and Crest Factor are displayed on a series of user configurable screens. You can even display all of these values on a single screen, including the load resistance. Digitized ESU waveforms with up to 32,768 data points can be stored, displayed on screen, or exported to a PC for analysis. Our companion PC Utility Software will create an Excel® graph of even the most complex output waveforms for viewing.

# ESU Analyzer Series

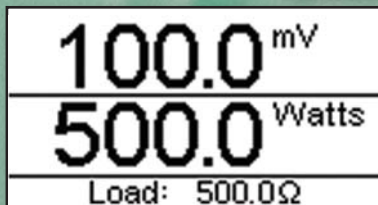
## SCREEN VIEWS

(NOTE: User can select measurement values & locations to be displayed on each screen choosing from RMS Current, RMS Voltage, RMS Power, Peak Voltage & Crest Factor

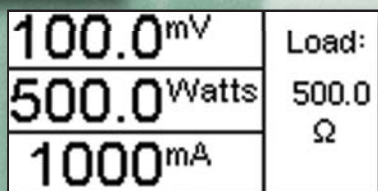
One Display Zone Screen with mV Parameter Selected



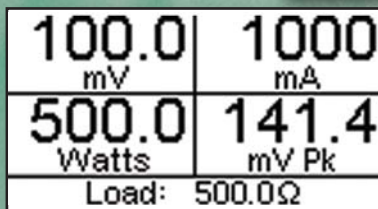
Two Display Zone Screen with mV & Watts Parameters Selected



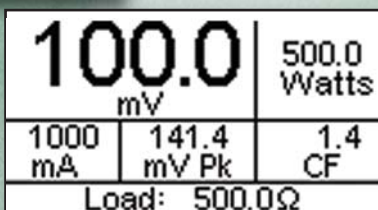
Three Display Zone Screen with mV, Watts & mA Parameters Selected



Four Display Zone Screen with mV, Watts, mA & mV Peak Parameters Selected

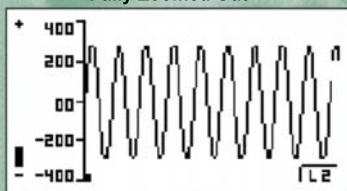


Five Display Zone Screen with mV, Watts, mA, mV Peak & CF Parameters Selected

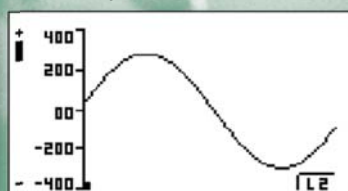


ESU-2050 Graph Mode Example

Fully Zoomed Out

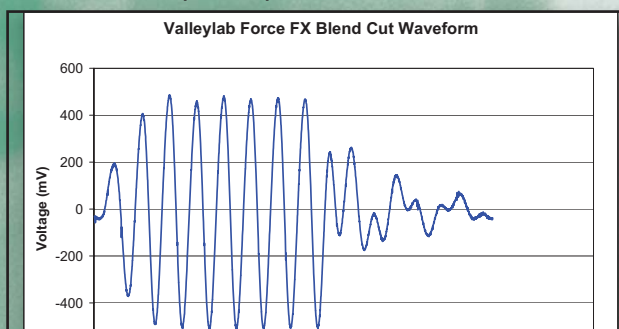


Fully Zoomed In



PC Software Waveform Example created from the Excel® graphing function using the over 32,000 discrete datapoints exported from the ESU-2050

Valleylab Force FX Blend Cut Waveform



## SPECIFICATIONS

| INPUT RANGE           |                                   |
|-----------------------|-----------------------------------|
| Voltage (RMS)         | 2.0 – 700.0 mV RMS                |
| Input Resolution      | 0.1 mV RMS                        |
| Voltage (Peak)        | 1000.0 mV                         |
| Resolution            | 0.1 mV                            |
| Frequency             | 10 KHz – 10 MHz                   |
| Accuracy              | 1% reading                        |
| Maximum Input Voltage | 3.3 V p-p<br>Internally Protected |

| CALCULATED RANGES       |                 |
|-------------------------|-----------------|
| Current (with 0.1:1 CT) | 7000 mA RMS     |
| Resolution              | 1 mA            |
| Current (with 1:1 CT)   | 700.0 mA RMS    |
| Resolution              | 0.1 mA          |
| Wattage                 | 10 KHz – 10 MHz |
| Resolution              | 0.1 Watt        |
| Crest Factor            | 1.4 to 500      |
| Resolution              | 0.1             |

| INPUT IMPEDANCE |  |
|-----------------|--|
| 50 ohm          |  |

| INPUT COMPATIBILITY                |   |
|------------------------------------|---|
| RF Current Transformer (50ohm)     | Pearson Electronics 411 OR 4100 (Typical) |
| RF Current Transformer Attenuation | 0.1: 1<br>1: 1<br>User Selectable         |

|                         |   |
|-------------------------|---|
| DISPLAY                 | LCD Graphical 128 X 64 Pixels                           |
| SETUP MEMORY            | EEPROM, All Parameters                                  |
| MEMORY RETENTION        | 10 Years w/o Power                                      |
| OPERATING RANGE         | 15 to 30 Degrees C                                      |
| STORAGE RANGE           | -20 to 60 Degrees C                                     |
| CONSTRUCTION            | Enclosure – ABS Plastic<br>Face – Lexan, Back Printed   |
| SIZE                    | 3.4 x 9.1 x 8.0 inches                                  |
| WEIGHT                  | 3 lbs   |
| CONNECTIONS             | Input: BNC<br>Output: Serial DB-9 or USB                |
| POWER SUPPLY ADAPTER    | Input: Universal 100-240 VAC, 50-60 hz<br>Output: 6 VDC |
| POWER CONSUMPTION       | ON: less than 150 mA<br>OFF: less than 40 µA            |
| DATA STORAGE (Internal) | 3 Sets of 32768 Data Points                             |