

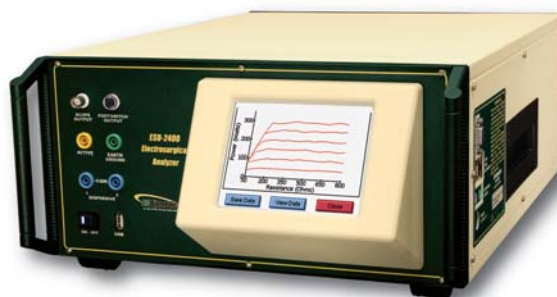
## Features - ESU-2400

- ◆ Based Upon Years of Collaborative Work with Leading Electrosurgery Industry Manufacturers
- ◆ The Industry's Most Comprehensive And Most Accurate Full-Featured Analyzer
- ◆ Industry Standard RF Current Measurement
- ◆ DFA™ Technology Ultra High Speed Digitization of The Complex RF Waveform
- ◆ Compatible with The Latest ESU Generator Platforms by The Major ESU Manufacturers
- ◆ Continuous & Pulsed Output Waveform Compatible
- ◆ Embedded Real-Time Operating System with ¼ VGA Color Touch Screen Display
- ◆ Displays Up to 15 Different Measurement Parameters with User Selectable and Definable Screens
- ◆ Internal Precision Test Loads From 1  $\Omega$  to 6400  $\Omega$  in 1  $\Omega$  Increments
- ◆ External Test Load Compatibility
- ◆ Automated Power Load Curves with Multiple Power Settings Per Load Setting
- ◆ Automated User-Definable Testing Sequences
- ◆ Print test Reports to RS232 or USB Printer
- ◆ USB (3), RS232, and Ethernet Communications Ports
- ◆ External Keyboard and Mouse Compatible Via Dedicated Ports
- ◆ Automatic or Manual Activation of ESU Generator During Power Load Curve Tests
- ◆ Remote Communications Capability with ESU Generators
- ◆ 100% Compatible with Covidien/Valleylab Force Triad & Ligasure Generators, Conmed System 5000 Generators, and All Legacy Generators by Other Manufacturers
- ◆ REM/ARM/CQM Testing Via 500  $\Omega$  Adjustable Load in 1  $\Omega$  Increments
- ◆ RF Leakage Current Measurement
- ◆ Capture, Store, Print RF Waveform

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# ESU Analyzer Series

## BC Biomedical ESU Series



### ESU-2400

The ESU-2400 represents a totally new standard in full-featured electrosurgery analyzers, with features that have never been seen before. Based upon the "measurement engine" of our widely adopted ESU-2050 and ESU-2050P, the ESU-2400 offers unprecedented features and capabilities, all in a self-contained "conventional" electrosurgery analyzer. Using internal precision non-inductive test loads in the range of 0  $\Omega$  to 6400  $\Omega$  in a previously unavailable 1  $\Omega$  increment, the ESU-2400 offers hospital end-users, ISO field service engineers and manufacturers compatibility. Just in case, we have included the capability to add an external load, guaranteeing 100% test load requirement compatibility for years to come.

Using a RF current range of 2 ma to 7000 ma RMS (power range of 500 watts RMS), the ESU-2400 surpasses all other current and previously available analyzers in measurement range. The calibration quality accuracy of our new analyzer shatters all previous barriers seen with other so-called full-featured analyzers and opens the door for end-users to perform field test procedures as well as calibration procedures on even the newest generators from leading manufacturers all with unprecedented precision and accuracy.

Features like automated power load curve tests, with multiple power steps per load setting, and automated user-defineable test autosequences, with an unlimited quantity of steps, each step having virtually unlimited ASCII text description capability, further set the new ESU-2400 in a class of its own. You can even program an automated REM/ARM/CQM and/or RF leakage test protocol in the ESU-2400.

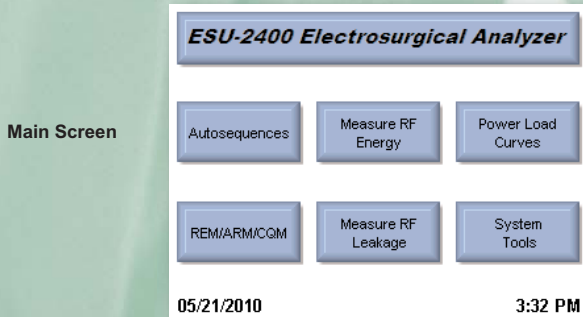
As with our ESU-2050, ESU-2050P and ESU-2300 analyzers, our utilization of DFA Technology and the strict adherence to the electrosurgery industry's standard of RF current measurement (instead of voltage measurement as implemented on many competitive units) helps ensure electrosurgery generator manufacturer acceptance of readings taken with the ESU-2400, not only on conventional "continuous output" waveform generators, but also on "pulsed output" waveform generators.

The new ESU-2400 is in a class of its own, and its real time operating system offers virtually unlimited expansion capabilities in the future that make it the ONLY logical choice for customers looking for a full-featured analyzer.

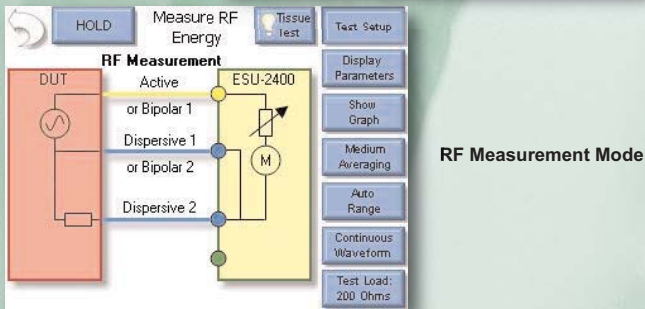
# BC Biomedical ESU-2400 Series

## SCREEN VIEWS

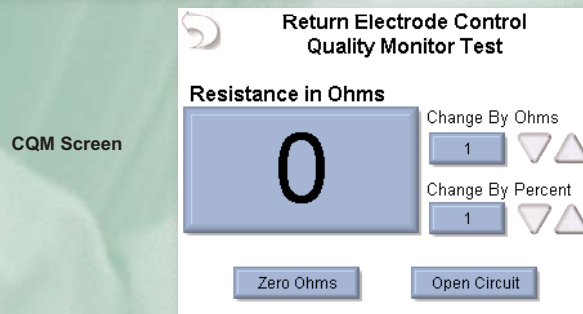
(NOTE: User can select measurement values & locations to be displayed on each screen choosing from RMS Current, RMS Voltage, RMS Power, Peak Voltage & Crest Factor)



Main Screen



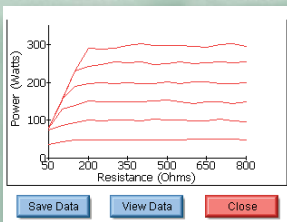
RF Measurement Mode



CQM Screen

ESU-2400 Graph Mode Example

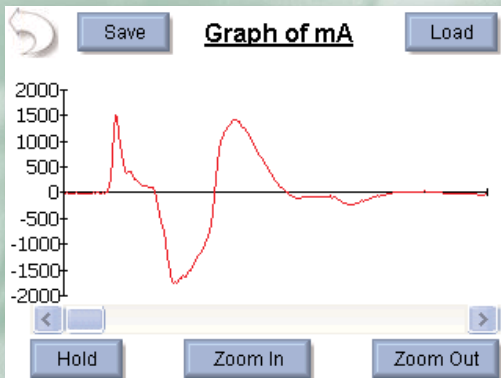
Load Curve



RF Leakage Mode



On - Screen Graphing



## SPECIFICATIONS

MEASUREMENTS	
A/D Resolution	14 Bits
A/D Speed	64 MSPS
Bandwidth	50 kHz – 10 MHz
Measurement Accuracy	1% Reading
Current Range	2.0 to 700.0 mA RMS (Low Range) 20 to 7000 mA RMS (High Range)
Current Resolution	0.1 mA RMS (Low Range) 1 mA RMS (High Range)
Power (Watts) Range	500 Watts
Power Resolution (Watts)	0.1 Watt
Crest Factor Range	1.4 to 500
Crest Factor Resolution	0.1
Input Voltage Range	0.20 to 70.00 mV RMS (Low Range) 2.0 to 700.0 mV RMS (High Range)
Voltage Resolution	0.01 mV (Low Range) 0.1 mV (High Range)
mV Peak/Peak-to-Peak Range	0.0 to 1.0
mV Peak/Peak-to-Peak Resolution	0.1

Load Bank Specifications	
Internal Setup/Load Selection Relays	10kV, 5A rated Reed Relays
Internal Load Selection	
Internal Load Range	0 to 6400 ohms
Internal Load Accuracy	1% Non-inductive
Internal Load Power Ratings	1 ohm: 25W 2 ohm: 50W 4 ohm: 100W Remaining Loads: 225W
Load Bank Duty Cycle	10 Seconds on, 30 Seconds off
Load Cooling	Dual 120mm Variable Speed DC Fans
External Load Selection	
External Load Range	0 to 6400 ohms
External Load Resolution	1 ohms

SCREEN SIZE	5.7" QVGA 18 bit color touch screen
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 – Aluminum Face – Lexan, Back Printed
SIZE	7.8" H x 15" W x 22.5" D
WEIGHT	31 lbs
CONNECTIONS	Input: I/O 4mm Safety Jacks 3xUSB, 1xSerial, 1xEthernet 1xPS/2 Keyboard/Mouse Output: 1xBNC Scope Hypertronics 25-pin Footswitch connector
POWER SUPPLY ADAPTER	Input: Universal 100-240 VAC, 50-60 hz Output: 12 VDC (Specify power cord see page Z)