

Radio Frequency Ablation

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RF 3000™ Generator Error Codes

HARDWARE SELF-TEST ERRORS

Error Code	Description	Malfunction (Unrecoverable)	Error (Recoverable)
H01	CPU Configuration Error	✓	
H02	COP Timeout Error	✓	
H03	ROM CRC Error	✓	
H04	RAM Error	✓	
H05	Illegal CPU Instruction	✓	
H06	Duplicate RAM Data Error	✓	
H07	POST Error: Power Generation/Measurement	✓	
H08	POST Error: Impedance Generation/Measurement	✓	
H09	POST Error: Voltage Generation/Measurement	✓	
H10	POST Error: Current Generation/Measurement	✓	
H11	POST Error: Pad Current Generation/Measurement	✓	
H12	POST Error: Pad Current Offset Measurement	✓	
H13	POST Error: Watchdog Error	✓	

MEASUREMENT ERRORS

E01	Low Impedance Measured		✓
E02	High Initial Impedance Measured		✓
E03	High Impedance Measured		✓
P-1	High Current in Pad 1		✓
P-2	High Current in Pad 2		✓
P-3	High Current in Pad 3		✓
P-4	High Current in Pad 4		✓
E80	Pad Current Sum Error	✓	
E81	Hardware Shutdown: Over Voltage	✓	
E82	Hardware Shutdown: Over Current	✓	
E83	Hardware Shutdown: Over Power	✓	
E84	Hardware Shutdown: Multiple	✓	
E85	Reference Voltage Error	✓	
E86	Power Offset Error	✓	
E87	High Voltage Measured	✓	
E88	High Current Measured	✓	
E89	High Power Measured	✓	
E90	RESERVED (RF-2000 POST Measurement Error)	✓	
E91	Software Shutdown	✓	
E92	PAD Current Offset Error	✓	
E93	Vrms Offset Error	✓	
E94	Irms Offset Error	✓	

Customer Service, Ordering Information 1.888.272.1001

HARDWARE SELF-TEST ERRORS

Error Code	Description	Malfunction	Explanation	Action
H01	CPU Configuration Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H02	COP Timeout Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H03	ROM CRC Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H04	RAM Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H05	Illegal CPU Instruction	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H06	Duplicate RAM Data Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H07	POST Error: Power Generation/M Measurement	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.
H08	POST Error: Impedance Generation/M Measurement	Unrecoverable - Hardware	May occur when generator is very cold.	Cycle AC Power Off/On. If problem persists, contact BSC service.
H09	POST Error: Voltage Generation/M Measurement	Unrecoverable - Hardware	May occur when generator is very cold.	Cycle AC Power Off/On. If problem persists, contact BSC service.
H10	POST Error: Current Generation/M Measurement	Unrecoverable - Hardware	May occur when generator is very cold.	Cycle AC Power Off/On. If problem persists, contact BSC service.
H11	POST Error: Pad Current Generation/M Measurement	Unrecoverable - Hardware	May occur when generator is very cold.	Cycle AC Power Off/On. If problem persists, contact BSC service.
H12	POST Error: Pad Current Offset Measurement	Unrecoverable - Hardware	May occur when generator is very cold.	Cycle AC Power Off/On. If problem persists, contact BSC service.
H13	POST Error: Watchdog Error	Unrecoverable - Hardware		Cycle AC Power Off/On. If problem persists, contact BSC service.

MEASUREMENT ERRORS

E01	Low Impedance Measured	Recoverable	Starting Impedance is < 15 ohms.	Check electrode, pads and connections for a short circuit. Correct problem and press RESET.
E02	High Initial Impedance Measured	Recoverable	Starting Impedance is > 400 ohms.	Check electrode, pads and connections for open circuit. Correct problem and press RESET.
E03	High Impedance Measured	Recoverable	After START, high impedance observed with RF power on.	Check electrode, pads and connections for disconnection or complete desiccation. Correct problem and press RESET.

MEASUREMENT ERRORS (cont.)

Error Code	Description	Malfunction	Explanation	Action
E80	Pad Current Sum Error	Unrecoverable	Current flow to the four return pads differs. Or External RF source (e.g. ESU in use)	Discontinue use of ESU generator. Check pad position. Cycle AC Power Off/On. If problem persists, contact BSC service.
E81	Hardware Shutdown: Over Voltage	Unrecoverable	RF voltage in excess of the hardware limit was detected. This may possibly result from a very rapid impedance increase (e.g. and open circuit).	Check pads and electrode. Discontinue use of ESU generator. Cycle AC Power Off/On. If problem persists, contact BSC service.
E82	Hardware Shutdown: Over Current	Unrecoverable	RF current in excess of the hardware limit was detected. This may possibly result from a very rapid impedance decrease (e.g. a short circuit). External RF source (e.g. ESU in use) or low impedance.	Check for possible short circuit. Cycle AC Power Off/On. If problem persists, contact BSC service.
E83	Hardware Shutdown: Over Power	Unrecoverable	RF power in excess of the hardware limit was detected. This may possibly result from a very rapid impedance decrease. External RF source (e.g. ESU in use) or impedance decreased rapidly and power exceeded limit.	Cycle AC Power Off/On. If problem persists, contact BSC service.
E84	Hardware Shutdown: Multiple	Unrecoverable	More than one of the conditions for E81-E83 occurred. Impedance may have decreased enough to allow Power to rise above limit.	Cycle AC Power Off/On. If problem persists, contact BSC service.
E85	Reference Voltage Error	Unrecoverable	May occur when generator is very cold.	Allow generator to warm to room temperature. Cycle AC Power Off/On. If problem persists, contact BSC service.
E86	Power Offset Error	Unrecoverable	May occur when generator is very cold.	Allow generator to warm to room temperature. Cycle AC Power Off/On. If problem persists, contact BSC service.
E87	High Voltage Measured	Unrecoverable	Sudden open circuit. E01, E02 or E03 usually occur first and suppresses the display of E87.	Check for possible open circuit. Cycle AC Power Off/On. If problem persists, contact BSC service.
E88	High Current Measured	Unrecoverable	Sudden decrease in impedance.	Check electrode, pads and connections. Cycle AC Power Off/On. If problem persists, contact BSC service.
E89	High Power Measured	Unrecoverable	Sudden decrease in impedance after setting a high power level. Or: While impedance is rapidly rising, the operator is pressing the DECR PWR button.	Cycle AC Power Off/On. If problem persists, contact BSC service.
(E90)	RESERVED (POST Measurement Error)	Unrecoverable		
E91	Software Shutdown	Unrecoverable	Multiple possible causes.	Cycle AC Power Off/On. If problem persists, contact BSC service.
E92	PAD Current Offset Error	Unrecoverable	May occur when generator is very cold.	Allow generator to warm to room temperature. Cycle AC Power off/On. If problem persists.
E93	Vrms Offset Error	Unrecoverable	May occur when generator is very cold.	Allow generator to warm to room temperature. Cycle AC Power off/On. If problem persists.
E94	Irms Offset Error	Unrecoverable	May occur when generator is very cold.	Allow generator to warm to room temperature. Cycle AC Power off/On. If problem persists.

PAD ERRORS				
Error Code	Description	Malfunction	Explanation	Action
P-1	High Current Pad 1	Recoverable / RESETABLE	Current flow to pad 1 exceeds .78 amperes. There is uneven current distribution amongst the four return pads.	Check pad placement relative to the other pads. Check cable routing or "coiling". Correct problem. Press RESET band continue.
P-2	High Current Pad 2	Recoverable / RESETABLE	Current flow to pad 2 exceeds .78 amperes. There is uneven current distribution amongst the four return pads.	Check pad placement relative to the other pads. Check cable routing or "coiling". Correct problem. Press RESET band continue.
P-3	High Current Pad 3	Recoverable / RESETABLE	Current flow to pad 3 exceeds .78 amperes. There is uneven current distribution amongst the four return pads.	Check pad placement relative to the other pads. Check cable routing or "coiling". Correct problem. Press RESET band continue.
P-4	High Current Pad 4	Recoverable / RESETABLE	Current flow to pad 4 exceeds .78 amperes. There is uneven current distribution amongst the four return pads.	Check pad placement relative to the other pads. Check cable routing or "coiling". Correct problem. Press RESET band continue.

**Peripheral Interventions**

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To order product or for more information
contact customer service at 1.888.272.1001.

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