


# Sys\*Stim<sup>®</sup> 240 Specifications

## General Specifications:

Input:	100-240VAC , 50/60 Hz
External Fuse:	1.0 A, 250 V, GDC/S506 5 X 20 mm, Time Delay 2 X T1.0, AL250V
ETL and C-ETL Listed:	Model ME 240 (9801427) 
Classification:	Protective Class I Equipment and Internally Powered Equipment Type BF Equipment Enclosed equipment without protection against ingress of water. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with nitrogen oxide.
Certification	The Sys*Stim 240 complies with the light-emitting and laser product performance standards set forth in the Code of Federal Regulations, Title 21 (Food and Drugs), Parts 1040.10 and 1040.11.
US Patent:	D593684
Weight:	4.5 pounds (5.5 pounds with battery)
Dimensions:	13" (L) x 8" (W) x 8" (H)
Temperature	
Operating:	50°F to 104°F
Nonoperating:	-40°F to 167°F
Humidity:	
Operating:	30% to 75% Relative Humidity at 104°F
Non-Operating:	5% to 95% Relative Humidity, non-condensing
Treatment Time:	1-60 minutes
Optional Battery:	Rechargeable Smart Lithium Ion Battery Pack rated at 10.8V and 4.8Ah

## Waveform Specifications:



### Interferential (IFC, 4-Pole)

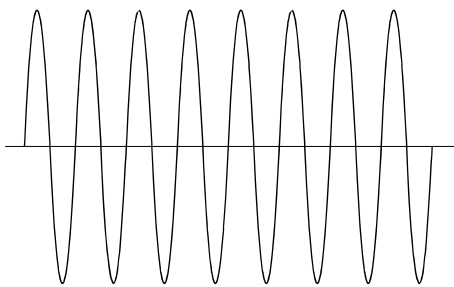


Figure 1—Interferential Waveform

Waveform Type:	Sinewave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Carrier frequency:	2500, 4000 or 5000 Hz
Interference frequency:	0-250 Hz
Frequency Modulation:	Low set: 0-250 Hz High set: 0-250 Hz
Preset Frequency Sweeps:	1-15 Hz, 80-150 Hz, 1-150 Hz
Amplitude Modulation:	10%, 40% and 100%
Type:	CC or CV
Available Channels:	Channels 1 & 2



### Premodulated (IFC, 2-Pole)

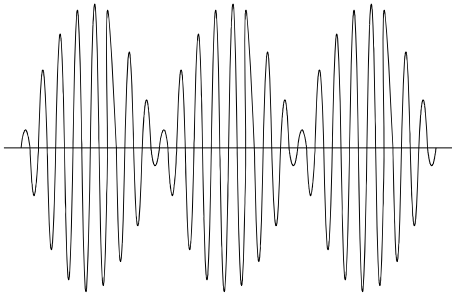


Figure 2—Premodulated Waveform

Waveform Type:	Amplitude modulated sine wave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Carrier frequency:	2500, 4000 or 5000 Hz
Interference frequency:	1-250 Hz
Frequency Modulation:	Low set: 1-250 Hz High set: 1-250 Hz
Preset Frequency Sweeps:	1-15 Hz, 80-150 Hz, 1-150 Hz
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All



### Medium Frequency (Russian)

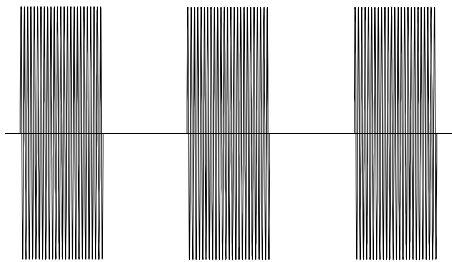


Figure 3—Med. Freq. Waveform

Waveform Type:	Burst modulated sine wave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Frequency:	2500 Hz
Duty Cycle (%):	10, 20, 30, 40 and 50
Burst Frequency:	20-100 bps
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All



### Biphasic

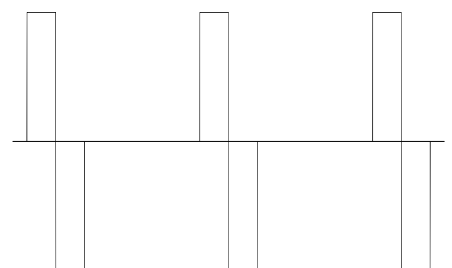


Figure 9.4—Biphasic Waveform

Waveform Type:	Amplitude modulated sine wave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Frequency:	1-200 pps
Phase Duration:	20-400 μs
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All



## High Volt

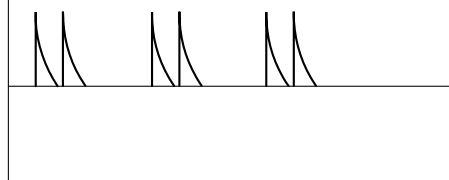


Figure 5— High Volt Waveform

Waveform Type:	Monophasic twin peak
Polarity:	Positive, negative or both
Voltage:	0 to 500 V peak, 500Ω load)
Phase Duration:	~15 μs
Frequency:	10-120 pps
Frequency Modulation:	1-10, 80-120, 1-120 pps
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CV
Available Channels:	All



## Microcurrent

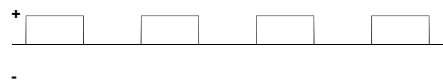


Figure 6—Microcurrent Waveform

Waveform Type:	Monophasic or Biphasic square
Polarity:	Positive, negative or both
Current:	0 –1,000 μA peak, 500Ω load
Phase Duration:	1-1,000 ms
Frequency:	0.5-500 pps
Type:	CC
Available Channels:	All



## TENS, Symmetrical Biphasic

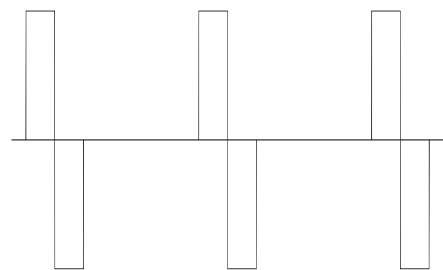


Figure 7—TENS Sym. Waveform

Waveform Type:	Biphasic square
Polarity:	None
Current:	0 –80 mA peak, 500Ω load
Phase Duration:	20-1,000 μs
Frequency:	1-250 pps
Frequency Modulation:	0-250 pps
Amplitude Modulation:	40, 60, 80, and 100%
Burst frequency:	0-30 bps
Type:	CC or CV
Available Channels:	All



## TENS, Asymmetrical Biphasic

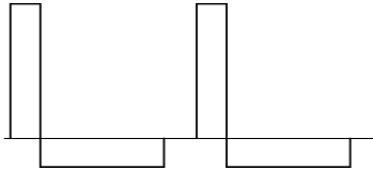


Figure 8—TENS Asym. Waveform

Waveform Type:	Asymmetrical biphasic
Polarity:	None
Current:	0 –110 mA peak, 500Ω load
Phase Duration:	20-1,000 μs
Frequency:	1-250 pps
Frequency Modulation:	0-250 pps
Amplitude Modulation:	40, 60, 80, and 100%
Burst frequency:	0-30 bps
Type:	CC or CV
Available Channels:	All



## DC Low Amplitude

Waveform Type:	Continuous DC
Polarity:	Positive or Negative
Current:	0-4 mA DC, 500Ω load
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Polarity Reversal:	If “On” then at 50% of the treatment time the polarity will reverse.
Type:	CC
Available Channels:	All

## Optional Laser Performance:

Output power:	Dependent on Applicator ( <i>automatically sensed</i> )
Laser diode applicator	80 mW at 785nm
Optional: cluster applicator	500 mW at 660/950nm
Delivered energy:	0.01 to 99.99 Joules
Operation modes:	Continuous and Pulsed
Pulse mode:	
Pulse width:	
Laser	100 μs nominal
Cluster	50% duty cycle
Pulse frequency:	
A)	Continuous
B)	10 Hz, 25 Hz, 50 Hz, 100 Hz, 250 Hz, 500 Hz, 1 kHz, 2.5 kHz, 5 kHz (Pulses per Second)
C)	Sweep from 10 to 5 kHz (inc continuous) in 10 seconds (1 second at each step)
Timer	0 to 99 minutes 59 seconds, 1 second increments (decrementing). Audible signal and output termination at time expiration

## Optional Applicator Specifications:



### Laser Applicator

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Lasing device:	Sanyo Single AlGaAs Diode (Class 3B laser device)
Wavelength:	785 nm $\pm$ 10 nm
Power:	80 mW $\pm$ 10 mW
Treatment area illumination:	Three Blue LED's (470 nm, visible through eyewear protection that attenuates Infrared/Near Infrared)
Output activation:	Capacitance Switch on Laser Applicator handle
NOHD	Nominal Ocular Hazard Distance is less than 35 cm.
MPE (skin only)	$\sim$ 3.3 MPE, less than maximum allowable of 5 MPE
Beam spot	Elliptical beam spot 2.8 mm x 1.1 mm (elliptical beam area of = 9.2 mm <sup>2</sup> ) at the aperture.
Divergence	Elliptical Beam divergence 18 degrees and 7 degrees
Eye protection	Uvex glasses with a minimum of 80% attenuation in the wavelength range of 780 nm to 860 nm. The Uvex glasses supplied with the unit meet these requirements.



### Cluster Applicator

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SLD	Twelve 950 nm Super luminescent Diodes
LED	Seven 660 nm Light Emitting Diodes
Total Power	500 mW $\pm$ 50 mW
Treatment area illumination	The 660 nm LED's are visible and illuminate treatment area
Output activation	Capacitance Switch on Cluster Applicator handle
Eye protection	Uvex glasses with a minimum of 80% attenuation in the wavelength range of 780 nm to 1200 nm. The Uvex glasses supplied with the unit meet these requirements.

Authorized Dealer



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