GE Healthcare

MAC 3500

High-value performance ECG system

Built on a strong

foundation.

MAC is recognized as one of the hardest-working resting ECG systems in the industry. With a trusted reputation for innovation. And a track record for performance. The new MAC 3500 upholds that name – and everything it implies.

GE has a strong history of innovation when it comes to ECG.

How else would you describe over 40 years of research and development? Ongoing collaboration with world-leading consulting cardiologists and physicians. To produce a fundamentally sound program that has set the standards in ECG analysis and interpretation – our advanced Marquette® 12SL™.

As a matter of fact, hard at work is the perfect way to describe GE's latest addition to its MAC® family of resting ECG analysis systems.

Ideal for basic 12-lead resting ECG analysis, the MAC 3500 system delivers technology you need for reliable and accurate cardiac assessments. With a common interface and intuitive operation that sets the groundwork for increased productivity and efficiency. All contained in an affordable and reliable electrocardiograph unit.

So that your work is easier.

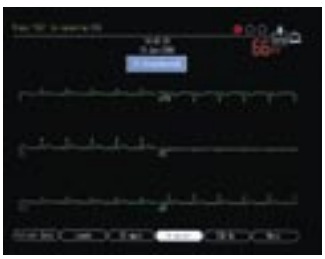
Right tool – right

The MAC 3500 provides you with important fundamentals – a proven suite of ECG analysis algorithms and applications – scaled to fit your needs, so there's no additional expense for features you don't require.

With the MAC 3500, you get the strength of our clinically-proven Marquette ECG analysis programs. It's the same technology that's found throughout our family of premier ECG analysis systems, providing you with consistent measurement and interpretation.

These programs continue to be the preferred choice of hospitals, clinics, physician offices and clinical research organizations for their uncompromising quality and reliability:

- Marquette 12SL ECG simultaneous 12-lead ECG analysis program for adults and pediatrics – the industry's most clinically validated program – remains your most trusted second opinion.
- Marquette Hookup Advisor™ signal quality analysis program reviews and measures ECG waveforms for signs of artifact and interference, helping to eliminate poor waveform quality during the recording of ECGs.
- Marquette 12SL with Gender-Specific Interpretation makes detecting acute myocardial infarction (MI) easier in women, even for occasional readers.



Extensive customization of display and final-report formatting accommodates user preferences. Security protocols and user-configurable password protection help to address HIPAA requirements.

choice.

From training to connectivity and service, GE Healthcare has the resources, technology and commitment to support you all the way.

The rest is easy.

Need to train your entire staff? Sure.

Thinking of expanding to ECG management? No problem.

With GE, you can relax. The next steps are all taken care of.

- Optional communications package allows you to tap into the power of GE's MUSE® cardiology information system, for streamlined workflow and higher functionality.
- Optional MobileLink™ wireless capabilities permit bi-directional communication with MUSE system via the optional communications package.
- Barcode and magnetic card reader options help reduce errors and keep things moving by automating data input and patient identification.
- CEU credits support your professional career.

MAC 3500 Resting ECG System

Instrument type:

Microprocessor augmented automatic electrocardiograph; 10-leadwire acquisition with programmable lead configuration or 12-leadwire acquisition with NEHB configuration.

Processing

ECG Interpretation:	Marquette 12SL ECG Analysis Program for Adults and Pediatrics
Computerized measurements:	12-lead analysis
ECG analysis frequency:	500 samples/second (sps)
ECG storage:	50 ECGs in internal memory
External archiving:	Optional secure digital card for 50 ECGs max Supports 64 MB to 1 GB SD cards
Digital sampling rate:	4,000 samples/second/channel
Pre-acquisition:	Provides 10 seconds of instantaneous ECG acquisition
Dynamic range:	AC Differential ± 5mV, DC offset ±300 mV
Resolution:	4.88 µV/LSB @ 250 sps, 4.88 µV/LSB @ 500 sps
Frequency response:	–3 dB @ 0.01 to 150 Hz
Common mode rejection:	>140 dB (123 dB with AC filter disabled)
Input impedance:	>10MΩ @ 10 Hz, defibrillator protected
Patient leakage:	<10 µA
Pace detect:	Orthogonal LA, LL, and V6; 750 µV @ 50 µs
Special acquisition functions:	Disconnected lead detection, electrode impedance, excessive AC noise, baseline wander and muscle tremor messages
Heart rate meter:	30 to 300 BPM ±10% or 5 BPM, whichever is greater. Heart rates outside this range will not be displayed.

Communications

MUSE Cardiology Information System compatible	
Infra-Red	Optional
Serial cable	Optional
Internal modem/fax	Optional
External modem/fax	Optional
Optional:	Fax compatibility Class 2 Group 3
	Wireless (requires additional MUSE software and installation):
	- MobileLink (using WEP security protocols and, in some countries, Cisco LEAP authentication/security)
LAN (requires additional MUSE communications software and installation)	
	- Communication with MUSE over LAN thru internal RJ-45 jack

Display

Display type:	6.5 in (165 mm) diagonal graphics backlit AM LCD (color optional)
Display resolution:	640 x 480 pixels with waveform enhancement
Display data:	Heart rate, patient name, ID, clock, waveforms, lead labels, speed, gain and filter settings, warning messages, prompts, and help messages. 6 leads maximum.

Writer

Writer technology:	Thermal dot array
Writer speeds:	5, 12.5, 25, & 50 mm/s (same as displayed)
Number of traces:	3, 6, or 12 user selectable (same as displayed)
Writer sensitivity/gain:	2.5, 5, 10, 20, 10/5 (split calibration) mm/mV (same as displayed)
Writer speed accuracy:	±10% at 5 & 12.5 mm/s; ±2% at 25 & 50 mm/s
Writer amplitude accuracy:	±5%
Writer resolution:	Horizontal 1000 dpi @ 25 mm/s, 200 dpi vertical
Paper type:	Thermal, Z-fold, perforated, fan fold, 300 sheets/pack
Paper size:	A Size: 8.45 in x 11 in, (214.63 mm x 280 mm) A4 Size: 8.27 in x 11.7 in (210 mm x 297.5 mm)

Keyboard

Type:	Sealed elastomer with soft function keys, alphanumeric keys, writer controls, and TrimPad cursor controls

Electrical

Power supply:	AC or battery operation
Voltage:	100 to 240 VAC +10, –15%
Current:	0.5A @ 115 VAC, typical 0.3A @ 240 VAC, typical
Frequency:	50 to 60 Hz ±3Hz
Battery type:	User replaceable, 18V @ 3.5 AH ±10% rechargeable NiMH
Battery capacity:	100 single page reports, (typical) or 6 hours continuous display (without printing)
Battery charge time:	Approximately 4.5 hours from total discharge (with display off)

Physical specifications

Height:	Approximately 7.6 in (19.3 cm)*
Width:	Approximately 15.6 in (39.6 cm)*
Depth:	Approximately 15.0 in (38.1 cm)*
Weight:	Approximately 7.0 kg (15.5 lbs)* including battery without paper
	Approximately 7.4 kg (16.3 lbs)* including KISS pump and battery without paper

Environmental specifications

Temperature:	
Operating:	50°to 104° F (10° to 40° C)
Transport/storage:	–40°to 158° F (–40° to 70° C)
Humidity:	
Operating:	20% to 95% RH non-condensing
Transport/storage:	15% to 95% RH non-condensing
Pressure:	
Operating:	700 to 1060 hPA
Transport/storage:	500 to 1060 hPA

Trolley specifications

Dimensions:	
Height:	39 in (99 cm)
Width:	21 in (54 cm)
Depth:	28 in (72 cm)
Height with acquisition module holder	52.5 in (134 cm)
Weight:	55 lbs. (25 kg)

Magnetic Card Reader Specifications

Character set	ANSI/ISO ALPHA alphanumeric characters and ANSI/ISO BCD (subset of ASCII (ISO 646 IRV:1991))
Dimensions:	
Height:	1.17 in (28 mm)
Length:	3.94 in (100 mm)
Width:	1.34 in (34 mm)
Temperature range operating:	50° F to 104° F (10° C to 40° C)
Humidity:	10% to 90% humidity
Agency conformance:	Complies with FCC Class A.
CE:	The system has been tested to and conforms with the provisions within 89/336/EEC, Electromagnetic Compatibility directive (EMC)

* without trolley

MAC 3500 Resting ECG System

Standard Barcode Scanner specifications	
Symbologies	Code 39 (extended), PDF-417, Code 128
Dimensions:	
Height	6.0 inches (15.2 cm)
Length	5.3 inches (13.5 cm)
Width	3.1 inches (7.9 cm)
Light source	630 nm visible red LED
Temperature ranges:	
Operating	32° F to +122° F (0° C to 50° C)
Storage	-4° F to +140° F (-20° C to +60° C)
Humidity	0 to 95% non-condensing
Mechanical	Operational after 25 drops from 5 feet (1.53 m) to concrete
Vibration	Withstands 5G peak from 20 to 300 Hz
ESD sensitivity	15 kV to any external surface
Agency compliance	FCC Class B, EMC Class B, CE Low Voltage Directive, EN60825-1, IEC60825-1, LED Safety: Class 1, UL, cUL, TÜV Certified to N60950, C-Tic

Advanced Barcode Scanner specifications	
Symbologies	Code 39 (extended), PDF-417, Code 128, Data Matrix, Interleaved 2 of 5.
Dimensions:	
Height	6.2 inches (15.7 cm)
Length	5.3 inches (13.5 cm)
Width	3.2 inches (8.1 cm)
Weight	6.5 ounces (184.3 g)
Light source	
Illumination LEDs	626+/-30nm
Aiming LEDs	526+/-30nm
Temperature ranges:	
Operating	32° F to +122° F (0° C to 50° C)
Storage	-40° F to +158° F (-40° C to +70° C)
Humidity	0 to 95% non-condensing
Drop	Operational after 50 drops from 6 feet (1.8 m) to concrete
Vibration	Withstands 5G peak from 22 to 300 Hz
ESD sensitivity	15 kV to any external surface
Agency compliance	FCC Class B, CE EMC Class B, CE Low Voltage Directive, IEC60825-1 LED Safety: Class 1, UL, cUL listed, TÜV Certified to EN60950, C-Tick, NOM

Certification

UL classification, CSA classification,
CE marking, CB certificate.

Warranty

Standard warranty is one year.

Ordering information

Available in: Simplified Chinese, Czech, Danish, Dutch, English, French, German, Hungarian, Italian, Japanese, Norwegian, Polish, Spanish and Swedish.

Visit gehealthcare.com or contact your local GE Healthcare representative.

Accessories available from www.gehealthcare.com

Healthcare Re-imagined

GE is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world to discover new ways to predict, diagnose and treat disease earlier. We call this model of care "Early Health." The goal: to help clinicians detect disease earlier, access more information and intervene earlier with more targeted treatments, so they can help their patients live their lives to the fullest.
Re-think, Re-discover, Re-invent, Re-imagine.

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GE imagination at work

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