



HAL[®] S3201

Advanced Multipurpose Patient Simulator

- Programmable airway and lung compliance
- Myocardial infarction modeling
- Automated physiology and drug recognition
- Real monitoring: mechanical ventilators, 12-Lead ECG, AED, oximeters, capnometers, and auto-BP
- Wireless and tetherless mobility for care in motion training
- Includes HAL Simulation Learning Experiences™ scenario package

Streamline your training with the one patient simulator that can do it all. Meet the versatile HAL® S3201.

HAL S3201 is our most advanced multipurpose patient simulator specifically designed to simulate lifelike cases across a broad range of clinical areas including pre-hospital, ED, OR, ICU, PACU, med-surge, and more.



Versatile and capable.

HAL's array of features can simulate a near-infinite number of clinical presentations and responses. HAL also supports the use of real patient monitors and sensors for in situ training.



Wireless and tetherless design.

HAL is self-contained, quiet, and fully operational on battery power for up to 6 hours². HAL's tetherless and wireless design eliminates complicated setups and allows for realistic patient hand-off exercises and realistic in situ simulation.



Powerful and intuitive software.

UNI lets you manage HAL's vitals, track participant actions, and export event data for debriefing from one interface. The UNI interface is shared across all Gaumard computer-controlled patient simulators, making it easier and faster to learn.



A complete solution.

HAL S3201 is delivered fully equipped and ready for use. The package includes the powerful UNI® tablet PC, Gaumard Vitals™, the new HAL Simulation Learning Experiences scenario package, and accessories.



Proven reliable.

Since 2004 our industry-leading HAL series design and wireless technology has been proven effective and reliable by our users. The HAL S3201 is the evolution of the HAL S3000 design awarded the certificate of airworthiness by the US Army.



● ● ● Skin tone options available at no extra charge



Train using real patient monitors and sensors.

HAL supports a broad range of real patient monitors and sensors. This unique capability allows participants to practice setting up and operating equipment just as they would in real situations.

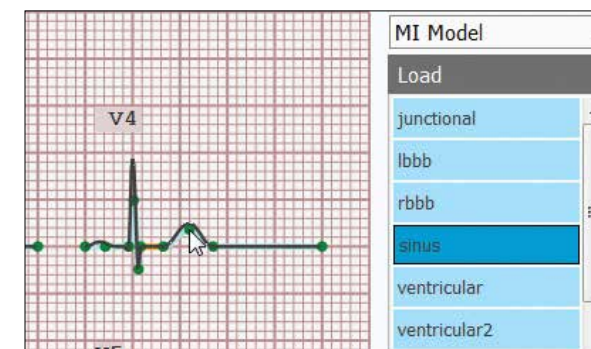
- ECG/EKG monitors
- Defibrillators
- Oximeters
- NIBP monitors
- Capnographs



Patented, dynamic airway and lung compliance respiratory system.

Train participants on ventilator management and patient care using a real mechanical ventilator. HAL's respiratory controls let you adjust lung compliance, airway resistance, gasping, real EtCO₂, and OSAT to simulate an infinite number of respiratory conditions.

- Supports standard modes of pressure-controlled and volume-cycled mechanical ventilation
- Holds PEEP from 5 to 20 cmH₂O
- Presents true-to-life waveforms and values on ventilator screen
- Exhales real and measurable CO₂
- 10 programmable levels of lung compliance (from 15 to 50 cmH₂O)
- Supports on-the-fly changes to airway and lung parameters while connected to the ventilator
- 10 programmable levels of airway resistance
- Connect ventilator to HAL using standard patient circuits like a real patient. No calibration, proprietary adapters, or converter boxes required.



12-Lead ECG editor with 3D myocardial infarction generator.

Train ECG interpretation and MI management using real native 12-lead equipment. Select rhythms from the built-in library, design your own using the point-by-point PQRST wave editor, or create an occlusion on the 3D heart model to auto-generate injury, ischemia, and necrosis.



Automatic recognition of 50+ virtual drugs.

Train medication administration and management to improve patient safety. The drug recognition sensors integrated into the arm vasculature detect the medication type, concentration, and dose administered. In response, the physiological model automatically simulates the effect on the patient.

Train general and specialized practitioners across the continuum of patient care.



Reactive eyes, seizures

HAL has blinking eyes with photosensitive pupils. Control dilation, reactivity, and blink rate to simulate injury and state of consciousness.

Blood in toilet	Can't catch breath	Voice Recorder
Chest hurts	Coughing up blood	REC
Feel nauseous	Feel weak	Output Gain
Heart trying to jump	Hurt all over	Voice Activation

Wireless streaming voice

Be the voice of HAL and hear caregiver responses. Create and store vocal responses or select from 80+ pre-recorded phrases.



Defibrillate, cardiovert & pace

Monitor, capture, pace, and cardiovert using a real defibrillator, electrodes, and real energy. Alternatively, save money on replacement pads by connecting the defibrillator directly to HAL using our optional hands-free training cables.



Advanced airway management

Visible tongue edema, pharyngeal swelling, and laryngospasm. Perform an emergency cricothyrotomy or tracheotomy.



eCPR™ and real EtCO₂

Built-in ventilation and chest compression sensors capture CPR quality metrics. Measure EtCO₂ using a real capnometer to monitor effectiveness.



Auscultation

Present normal and abnormal airway sounds, heart sounds, anterior and posterior lung sounds, and bowel sounds.

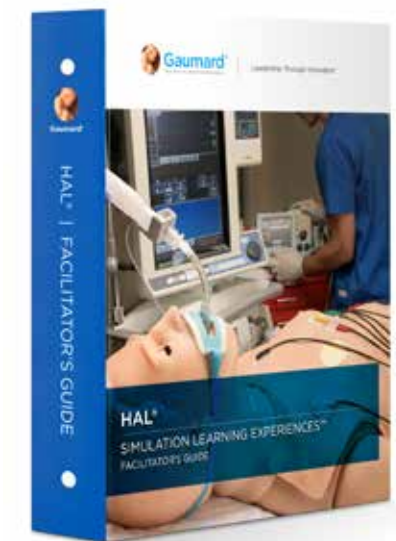


Includes the new HAL® Simulation Learning Experiences package

The new HAL® Simulation Learning Experiences (SLEs) provide you with a library of ready-to-use, evidence-based scenarios designed to help you maximize participant's learning through outcome-focused simulated clinical patient encounters.

The package includes 10 SLEs complete with a facilitator's guidebook for planning, setting up, and facilitating each learning experience:

- Acute Anterolateral Myocardial Infarction
- Acute Sepsis Related To Diabetic Ulcer
- Atrial Fibrillation
- COPD Exacerbation
- Diabetic Ketoacidosis
- Opioid Overdose
- Pulmonary Embolism
- Sepsis Related To Pneumonia
- Severe Sepsis
- Supraventricular Tachycardia



UNI® offers you all the tools to deliver a rich simulation experience in one intuitive interface.

Preconfigured and ready

UNI comes preloaded and preconfigured in the rugged 12" wireless tablet PC included with the package.

3D Patient Visualization Monitor

This real-time 3D view of the patient ensures you never lose track of provider/patient interaction during the simulation.

Unified Scenario Designer

Create your own scenarios quickly and easily and share them with other UNI users and between Gaumard products.

Time-stamped event recording and reporting

The automated event tracking and interaction recorder ensures important events are always captured so you can focus on the action.

Control View Replay

The built-in recorder captures UNI's screen as data so you can review the simulation from the operator's chair.

No annual software license fee

Gaumard is committed to providing the best value and keeping your program's operating costs down year after year.



Free Software Updates

Always stay up to date and take advantage of all the newest features at no additional cost.



3D Myocardial infarction

Train to improve MI diagnosis, management, and prognosis. Simply point-and-click on the 3D heart to create an occlusion to auto-generate MI's visible on a real 12-lead ECG reading.



eCPR™ Monitoring

Monitor and assess CPR performance in real-time, simulate perfusion dependent on effectiveness, and export performance reports for debriefing.

Automatic mode

The UNI physiological model can automatically simulate lifelike responses to cardiorespiratory events, gas and blood composition, medications, and much more, without input from the operator.



Includes Gaumard Vitals patient monitor.

- Includes Gaumard Vitals bedside patient monitor
- Customize each trace independently. Users can set alarms and time scales.
- Display up to 12 numeric values, including HR, ABP, CVP, PAWP, NIBP, CCO, SpO₂, SvO₂, RR, EtCO₂, temperature, and time.

- Select up to 12 dynamic waveforms, including ECG Lead I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6, AVP, CVP, PAWP, pulse, CCO, SvO₂, respiration, capnography.
- Share images such as x-rays, CT scans, lab results, or even multimedia presentations as the scenario progresses.

General

- Tetherless and wireless; fully responsive during transport!
- Fully operational on internal battery power for up to 6 hours²
- Supports common patient positions including Fowler's, supine, and sitting

Airway

- Programmable airway: tongue edema, laryngospasm, and pharyngeal swelling
- Multiple upper airway sounds synchronized with breathing
- Right mainstem intubation
- Sensors detect depth of intubation
- Placement of conventional airway adjuncts
- Endotracheal intubation
- Retrograde intubation
- View vocal cords with Sellick maneuver
- Realistic surgical trachea allows tracheostomy or needle cricothyrotomy

Breathing

- Control rate and depth of respiration and observe chest rise
- Select independent lung sounds: upper right, front and back; upper left, front and back; lower right, front and back; lower left, front and back
- Chest rise and lung sounds are synchronized with selectable breathing patterns
- CO₂ on exhalation (4 levels) using replaceable cartridge mounted inside the simulator
- Attach to real mechanical ventilators
- Bilateral chest rise and fall
- Unilateral chest rise simulates pneumothorax
- Anterior and posterior auscultation sites
- Bilateral needle decompression at second intercostal
- Dynamic airway and lung compliance/resistance
 - » Ten levels of static compliance, 15-50 ml/cm H₂O
 - » Ten levels of airway resistance
 - » Holds PEEP from 5 to 20cm H₂O
 - » Exhales real and measurable CO₂
 - » Change airway and lung settings on the fly
 - » Receive real-time feedback from a real mechanical ventilator
 - » Capable of assisting the ventilator at variable respiratory rate
 - » Compliance and resistance can be varied while connected to the ventilator

Cardiac

- ECGs are generated in real-time with physiologic variations never repeating textbook patterns
- Heart sounds may be auscultated and are synchronized with ECG
- eCPR sensors; chest compressions are measured and logged
- 12-Lead ECG with integrated MI model

Circulation

- Measure blood pressure by palpation or auscultation
- Use real BP cuff rather than a "virtual" cuff to measure blood pressure
- Korotkoff sounds audible between systolic and diastolic pressures
- Oxygen saturation detected using real monitors rather than a "virtual" value
- Pulse sites synchronized with BP and heart rate
- Bilateral IV arms with fill/drain sites
- SubQ and IM injection sites
- Intraosseous access at tibia
- ECG monitoring using real devices
- Defibrillate, cardiovert, and pace using real devices
- Multiple heart sounds, rates, and intensities
- ECG rhythms are generated in real-time
- Bilateral carotid, radial, brachial, femoral, popliteal and pedal pulses synchronized with ECG
- Pulses vary with blood pressure and are continuous and synchronized with the ECG even during a paced rhythm

Drug recognition system

- Automatic drug recognition detects medication type, dose, and rate injected into the lower right arm
- Includes a pre-programmed library of virtual medications
- Supplied with 20 syringes having wireless tags
- Add new medications using the UNI software editor
- Compatible with UNI Automatic Mode
- Automatically simulates drug interactions

Neural responses

- Eyes are controlled automatically by the physiologic model or directly by the instructor
- Select pupillary response to light

Speech

- Wireless streaming audio
- Create and store vocal responses in any language

Vital signs monitor

- Controlled via wireless tablet PC
- Use selected configuration or create your own configuration to mimic the real monitors used in your facility
- Share images such as ultrasounds, CT scans, lab results
- Touchscreen control
- Monitor can be configured by the instructor to suit the scenario

Other

- Central cyanosis
- Male urinary catheterization with fluid return
- Insert feeding tubes
- Auscultate bowel sounds

Articulation and movement

- Realistic joint articulation
- Supports supine, prone, recumbent, and sitting positions
- Seizure/convulsions

HAL® 3201

S3201.PK Patent; other patents pending.

Package contents

HAL, wireless tablet PC preloaded with UNI® software license, automatic mode license, HAL SLE™ scenario package, protective "bump" case, RF module, battery charger, replacement surgical tracheas, replacement pneumothorax inserts, replacement IO bones, set of 20 drug recognition syringes, filling kits, headset for streaming audio, carrying case, user manual, One-Year Limited Warranty, (extended warranty plans available). Patented; other patents pending

Options & accessories

CARE IN MOTION™ MOBILE

Video-assisted debriefing system

CIM.PK

Care In Motion Tablet PC, 3 Battery-powered HD wireless cameras, 3 adjustable camera grips, transport case, and one-year limited warranty (extended warranty plans available).



Trauma limbs (all skin tones)

Amputated leg - S3201.004

Amputated arm - S3201.005

Wound kits (all skin tones)

Emergency - WK100

Burn - WK105

Trauma - WK110

Casualty - WK120

Defib pacing snaps

PHILIPS® - S30080373B

Physio LIFEPAK® - S30080375B

ZOLL® - S30080374B

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Warranty

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