HAL® S3201
Advanced Multipurpose Patient Simulator

- Dynamic 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
- eCPR™ - effectiveness monitoring and trainer
- Wireless and tetherless mobility for care in motion training
HAL® S3201

HAL features the most advanced capabilities in patient simulation in one affordable package.

**Multipurpose**
HAL offers an array of physical and physiological features capable of simulating lifelike cases in nearly all clinical settings, including prehospital, ED, OR, ICU, PACU, and general nursing. HAL’s versatility makes it the most advanced and cost-effective patient simulation solution today.

**Real Monitoring**
Monitor and provide care using your native equipment. HAL supports real 12-Lead ECG monitors, capnometers, oximeters, BP cuffs, defibrillators, and mechanical ventilators just like a real patient. No adapters, adjuncts, or special configuration required.

**Tetherless**
HAL’s tetherless and wireless design allows for point-of-injury care, transport, and patient handoff training. HAL is self-contained, quiet, and fully operational on battery for up to 6 hours.

**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 a certificate of airworthiness by the US Army.

**Easy to Use**
Our intuitive UNI® software lets you quickly and easily manage HAL’s vitals using on-the-fly controls and interactive scenarios, while the physiological model in the “automatic operating mode” handles the effects of medications, so you can focus on the learners’ actions.

**Turn-key Solution**
HAL is fully equipped and ready for use. HAL includes a wireless control tablet, UNI®, a virtual patient monitor, a scenario library, and accessories for one great price. The commitment to providing innovative technology and value is still our principle today as it was over 50 years ago.
Train general and specialized practitioners with one patient simulator that does it all.

**Dynamic airway and lung compliance**

Train learners on vent management and patient treatment using your 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. HAL can also hold P.E.E.P. from 5 to 20 cmH₂O and trigger the vent’s assist mode during weaning.

**12-Lead ECG Designer with MI model**

Train ECG interpretation and MI management using your 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.
UNI® - Unified Simulator Control Software
Intuitive controls, monitoring, and tracking.

Unified Simulator Control Platform - UNI’s interface design is shared across our growing line of 15+ computer controlled patient simulators, so you can easily operate any Gaumard products without retraining, thus saving your program valuable time and money.

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 operating license or software updates fee – Keeps your program’s operating costs down year after year.

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.

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 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.

Virtual Patient Monitor Included
• Includes 20 inch touchscreen virtual monitor or upgrade to a 12 inch tablet virtual 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.
HAL®, a multipurpose patient simulator for all your clinical training needs that's easy to use.

**Defibrillation**
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.

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

**Surgical Airway**
Visible tongue edema, pharyngeal swelling, and laryngospasm; perform an emergency cricothyrotomy or tracheotomy.

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

**Reactive Eyes, Seizures**
HAL has blinking eyes with photo sensitive pupils. Control dilation, reactivity, and blink rate to simulate injury and state of consciousness.

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

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HAL® S3201 Advanced Multipurpose Patient Simulator

General
- Available in ethnic skin tones
- Powered from an internal rechargeable battery or wall outlet
- Simulator receives commands from a wireless tablet PC and operates at distances up to 300 meters
- Use pre-programmed scenarios, modify them or create your own quickly and easily
- Installation and training worldwide

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
- Trackoosseous 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, are continuous and synchronized with the ECG even during a paced rhythm

Instructor or Automatic Mode
- Vital signs are generated in real time
- Drug library with medications
- Use of medications change conditions in real time mimicking real clinical situations

Drug Recognition System
- Identifies drug type and volume injected into veins of the right hand and forearm
- Supplied with 20 syringes having wireless tags
- Use drugs from library or choose to model other drugs using software template

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

Speech
- Wireless streaming audio
- Create and store vocal responses in any language
- Includes preprogrammed library of 80+ phrases in three languages

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
- Customizable layout can mimic the look of standard patient monitors

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

Other
- Interchangeable male/female genitalia
- Insert feeding tubes
- Auscultate bowel sounds

User Interface
- Manual and Automatic Operating Modes
- Scenario designer
- Preprogrammed scenario library
- eCPR™ - Real-time monitor and trainer
- 12-Lead ECG designer and MI model
- Medication library with editor
- Time stamped event logging
- UNI Control View Replay

HAL S3201
Patented; other patents pending

Optional Add-Ons

Traumatic leg amputation
S3201.004

Traumatic arm amputation
S3201.005

Upgrade to 12 inch tablet virtual monitor
S3201.003

Casualty wound kit
WK120

Burns wound kit
WK100

Emergency wound kit
WK105

Defib-pacing snaps
S3201.125

Defib-pacing snap hands-free cables
S3201.126 Philips

Skin tones available at no extra charge
- Light
- Medium
- Dark

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