



QUAKELOGIC



QL-GOLFSIM

Professional Indoor Golf Simulation System

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QL-GolfSim

- The QuakeLogic QL-GolfSim represents the latest generation of professional indoor golf simulation technology.
- Combining dual 6000-FPS high-speed cameras, AI-based trajectory reconstruction, and a 4K laser projection environment, the QL-GolfSim# delivers tour-grade accuracy, real-time response, and immersive visual realism for athletes, coaches, and performance centers.
- Developed under QuakeLogic's engineering supervision, the system is designed for continuous commercial operation, integrating every component 4 sensors, computing, software, impact structure, and training tools 4 into a single turnkey solution.
- QL-GolfSim conforms to international IEC electrical and EMC safety standards equivalent to CE/FCC and includes global service, installation, and technical support.
- Supports both left-handed and right-handed players without repositioning the hitting area or requiring major hardware adjustment.
- QL-GolfSim includes a standard integrated swing plate system with a 3D hitting surface configuration.
- Available for single-user and shared left/right bay configurations.

TECHNICAL SPECIFICATIONS

Sensor Type

Dual high-speed binocular cameras (stereo vision, 6000 frames per second)

Lighting System

Integrated infrared auxiliary fill light for low-light environments

Accuracy

≥ 99 % overall detection accuracy

Club Head Speed Range

1.3 3 165 mph

Club Head Speed Accuracy

± 0.5 mph

Spin Accuracy

± 20 rpm (side/back spin)

Measurement Repeatability

≥ % variance per shot

Detection Principle

3D stereoscopic physical tracking with AI motion reconstruction

Data Interface

Gigabit Ethernet, data rate 4 Gb/s

Ball Speed Range

1.5 3 215 mph

Ball Speed Accuracy

± 0.5 mph

Launch Angle Accuracy

≤ 1°

Response Time (Latency)

Real-time feedback with no perceptible delay (f 100 ms typical)

Calibration

Automated optical self-calibration with manual finetune option

- Measured parameters include ball speed, launch angle, backspin, sidespin, club head speed, club path, club face angle, impact position, carry distance, and total distance.

PROJECTION & VISUAL ENVIRONMENT

The QL-GolfSim delivers an unparalleled visual experience through its 4K UHD laser projection system. With 6000 lumens of brightness and an extraordinary contrast ratio of 3,000,000:1, every detail of the virtual course comes to life with stunning clarity and depth. The laser light source provides 20,000 hours of projection lifetime, ensuring years of maintenance-free operation for commercial facilities.

The premium high-density impact screen measures 3m × 2.5m × 4.2m and features acoustic backing for reduced noise, along with side and ceiling safety panels for complete protection. The projection creates images ranging from 165 to 180 inches diagonal with a 120 Hz refresh rate, delivering smooth, fluid motion that enhances realism. The viewing distance is adjustable from 3.0 to 5.5 meters, accommodating various room configurations and player preferences.

01

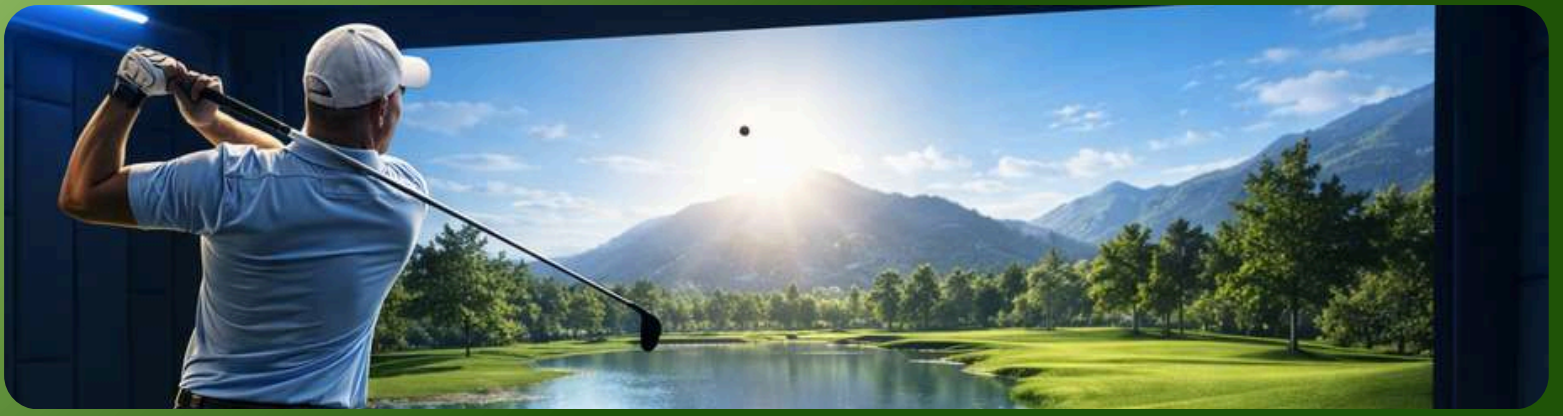
Display Technology

- 4K UHD laser projection
- 6000 lumens brightness
- 3,000,000:1 contrast ratio
- 20,000 hour laser lifetime
- 120 Hz refresh rate

02

Screen System

- Premium impact-resistant material
- Acoustic backing for noise reduction
- Side and ceiling safety panels
- 165-180 inch diagonal image
- Adjustable viewing distance



Powerful Computing Platform

The QL-GolfSim is powered by cutting-edge hardware designed for demanding real-time processing and stunning graphics rendering. At its core, an Intel® Core i5-12400 processor with 6 cores and 12 threads handles complex calculations and AI algorithms with ease. The NVIDIA® RTX 2060 graphics engine with 8GB of dedicated memory delivers exceptional visual performance, supporting DirectX 12 and CUDA AI acceleration for advanced motion analysis.

The system includes 16GB of DDR4 RAM for smooth multitasking and 512GB of expandable SSD storage for fast data access and ample space for course libraries and user profiles. Running on Windows 11 Professional, the platform provides a stable, secure environment for continuous commercial operation. An integrated stereo 2.1-channel speaker system delivers immersive audio, while comprehensive connectivity options including Ethernet, Wi-Fi, HDMI, and USB 3.0 ensure seamless integration with other devices and networks.



Processing Power

- Intel® Core# i5-12400 6-core processor with 16GB DDR4 RAM



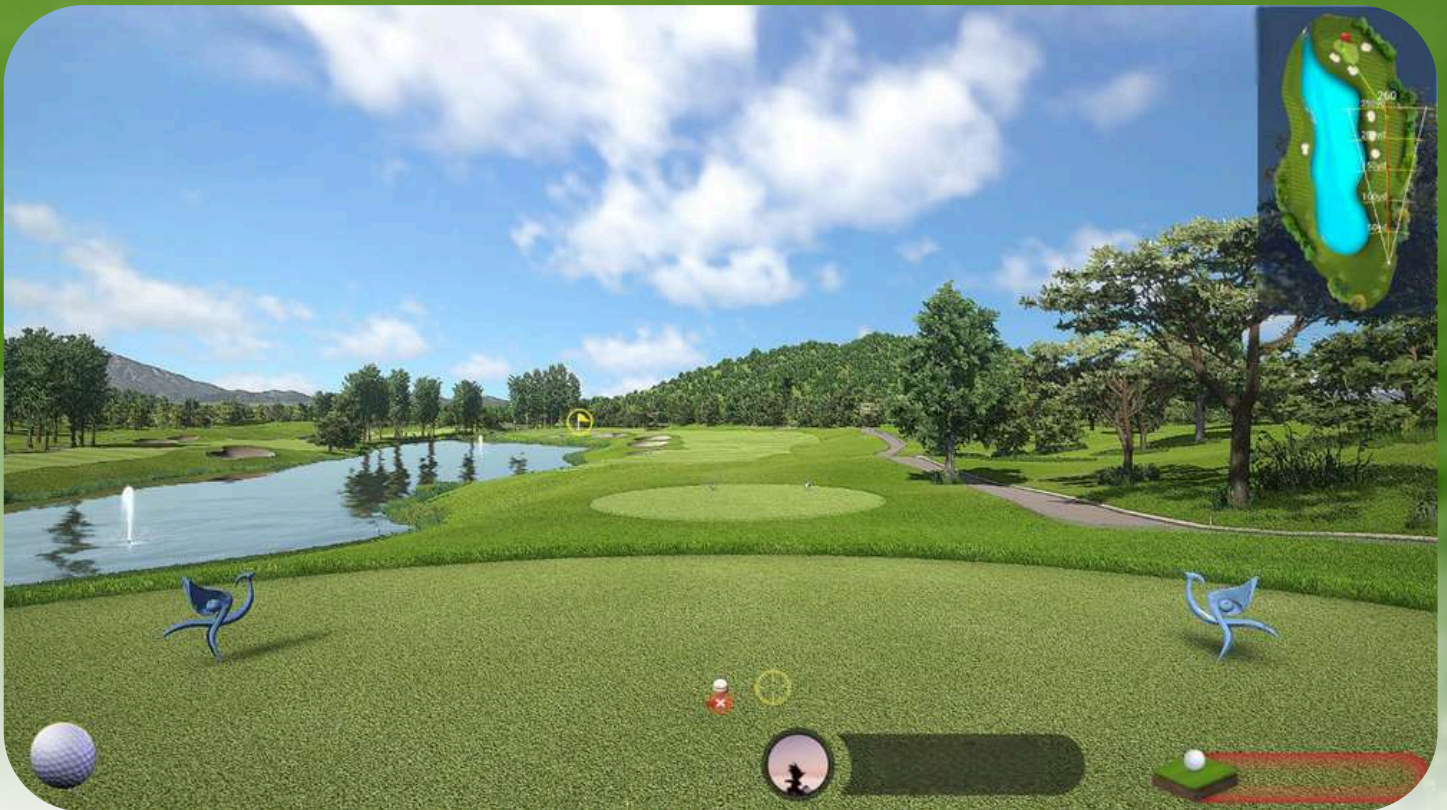
Graphics Engine

- NVIDIA® RTX 2060 8GB with AI support and DirectX 12



Storage & OS

- 512GB SSD with Windows 11 Professional operating system





Comprehensive Software Platform

The QL-GolfSim software platform transforms the hardware into a complete training and entertainment ecosystem. The simulation engine features over 170 high-definition golf courses, including internationally recognized venues, all replicated using digital elevation models (DEM) for authentic terrain representation. Players can adjust environmental factors including weather conditions, wind speed and direction, lighting, altitude, and green speed to simulate any playing condition imaginable.

The advanced ball physics engine is calibrated for air density and spin lift models, ensuring realistic ball flight behavior that matches real-world performance. Training and coaching modules provide real-time swing and ball-flight data visualization, with frame-by-frame swing replay from dual-angle camera feeds. AI coaching analysis offers detailed insights into club path, impact point, and face angle, while club-distance mapping, dispersion plots, and gapping charts help players optimize their equipment and technique.

Training and play modes support fairway, rough, bunker, and tee shot conditions through the system's 3D hitting surface configuration.

Course Library

Course Library 170+ high-definition courses with real-terrain replication using digital elevation models and adjustable environmental conditions.

Training Analytics

Real-time data visualization, swing replay, AI coaching analysis, and comprehensive performance tracking with export capabilities.

Multiplayer Features

Local and online play, tournament modes, player rankings, cloud backup, and companion mobile app for remote review.



Installation and Space Requirements

The QL-GolfSim features a modular design that balances professional performance with practical installation requirements. The minimum recommended room size is 6.5m length × 3.8m width × 2.8m height, though the standard installation configuration of 8.0m × 4.8m × 3.1m provides optimal playing conditions and comfort. The complete system weighs approximately 300 kg, including the screen, modular aluminum frame structure, acoustic panels, floor turf integration, and all electronic components.

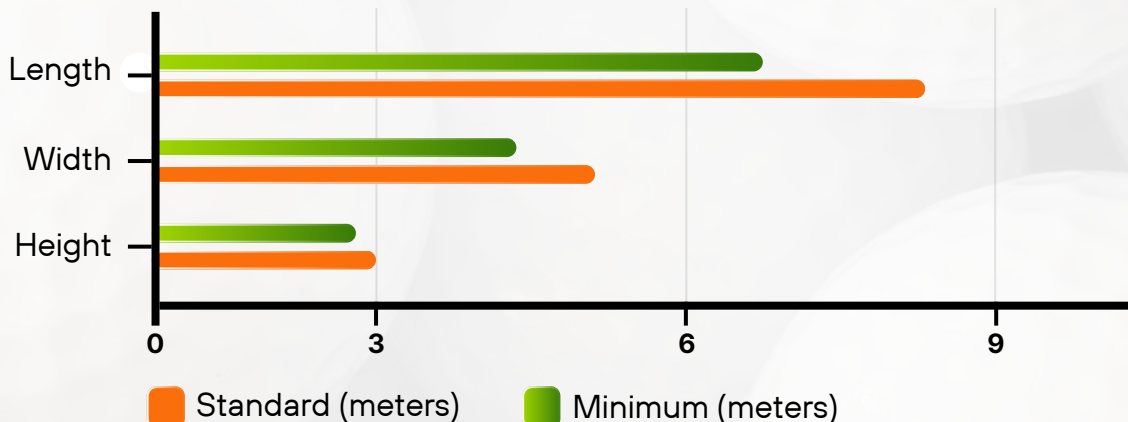
Installation Details

Installation is streamlined through pre-assembly, testing, and calibration before shipment. Each system includes a comprehensive accessories package featuring a hitting mat, 100 balls, auto tee-up machine, control keypad, club stand, and complete cabling kit. Professional installation services include setup, performance validation, and user training with a minimum of 4 hours of hands-on instruction. The typical installation duration ranges from 6 to 10 weeks from order confirmation, with global shipping available under DDP or CIF terms.

* Each system includes a fully automatic tee-up machine with adjustable tee height.

*Each system includes a standard integrated swing plate system with a 3D hitting surface configuration.

* Shared left/right play configurations are available for commercial bay installations.



The system operates reliably in temperatures ranging from 10 to 35°C with relative humidity below 85%, making it suitable for most indoor environments worldwide.



Support, Warranty and Compliance

QuakeLogic Inc. stands behind the QL-GolfSim with comprehensive support and warranty coverage designed for commercial operations. Every system includes a 1-year full-system warranty covering all components against nonhuman damage, ensuring peace of mind for facility operators and individual owners alike. Lifetime access to system updates and feature enhancements keeps your investment current with the latest technology advancements, while two years of free annual course library updates continuously expand your playing options.

Technical support is available 24/7 through multiple channels including email, chat, and video assistance, ensuring help is always available when needed. On-site services include professional installation, precision calibration, and comprehensive operator training. Optional annual or semi-annual inspection and calibration packages maintain peak performance over the system's lifetime. The QL-GolfSim# is designed to conform to IEC safety and EMC standards equivalent to CE/FCC requirements, with electrical safety and EMC compliance tested under ISO 9001 quality management protocols

Year 1

Full system warranty coverage and 24/7 technical support.

Year 1-2

Free annual course library updates and software enhancements.

Lifetime

Continuous access to system updates and feature releases.





Tour-Grade Performance Advantages

The QuakeLogic QL-GolfSim delivers a compelling combination of precision, technology, and value that sets it apart in the professional golf simulation market. Tour-grade precision with ± 0.5 mph accuracy and $\pm 1^\circ$ launch angle measurement provides feedback that rivals outdoor launch monitors costing significantly more. The 6000 FPS AI vision system captures true 3D trajectory data that other systems simply cannot match, while the 4K 6000-lumen laser projection creates an immersive environment that makes virtual play feel remarkably real.

The comprehensive training suite with advanced data analytics and AI coaching tools transforms the system from entertainment into a serious performance development platform. Despite its professional capabilities, the QL-GolfSim features a compact installation footprint with modular design that fits into spaces where other systems cannot. Global technical support and a lifetime software upgrade policy ensure your investment remains current and fully supported for years to come. Compliance with international safety standards makes the system suitable for commercial facilities, educational institutions, and residential installations worldwide.

- * Supports both left-handed and right-handed players without repositioning the hitting area.
- * Includes a standard integrated swing plate and 3D hitting surface configuration.
- * Supports fairway, rough, bunker, and tee play conditions.
- * Includes a fully automatic tee-up machine with adjustable tee height.

Precision

- ± 0.5 mph speed accuracy, $\pm 1^\circ$ launch angle, ± 20 rpm spin measurement with 99% detection accuracy,

Technology

- 6000 FPS dual cameras, AI motion reconstruction, 4K laser projection, RTX graphics acceleration,

Training

- 170+ courses, AI coaching analysis, performance tracking, data export, multiplayer capabilities,

Support

- Lifetime software updates, 24/7 technical assistance, global installation, international compliance.

QuakeLogic Inc. certifies that the QL-GolfSim has been designed and manufactured under rigorous quality management and engineering standards, meeting all applicable international electrical, mechanical, and safety requirements for continuous indoor operation.



Transforming Training Operations with QuakeLogic Excellence

As the definitive industry leader, QuakeLogic empowers organizations to elevate their operational capabilities and achieve unparalleled training efficacy through our cutting-edge simulation technology.

Connect with QuakeLogic: Your Gateway to Innovation

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Direct access for executive consultations and priority support.

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Strategic Inquiries

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For strategic partnerships, enterprise solutions, and comprehensive information.

Our Unwavering Commitment to Operational Excellence

Certified Quality Assurance

Adhering to and exceeding the most rigorous international and industry standards for unparalleled performance, reliability, and security across all our solutions.

Pioneering Industry Leadership

Driving innovation and setting the benchmark for simulation technology, with a relentless focus on future-forward advancements and client success.

Dedicated Client Success

A bespoke partnership approach ensuring seamless integration, optimal performance, and continuous evolution of your training and operational capabilities.

Explore Our Complete Product Portfolio



Scan to Access Cutting-Edge Solutions

Discover how QuakeLogic's comprehensive suite of advanced simulation products can revolutionize your operational readiness and elevate your training programs to new, unprecedented heights.

www.quakelogic.net