

SIGNAL ADVANCE, INC.

Signal Processing Innovation - and the Analog Guard® Physical-Layer Security Platform It Owns

Ticker	OTCID: SIGL
Incorporated	Texas, 1992 • SEC/OTC reporting entity since 2012
Headquarters	2520 County Road 81, Rosharon, TX 77583
Shares Outstanding	60,071,494 as of June 30, 2026 (200,000,000 authorized)
Officers & Directors	Chris M. Hymel (CEO/CFO/Dir) • Ron Stubbers (COO/Dir) • Richard C. Seltzer (Corp Sec/Dir)
Wholly-Owned Subsidiary	Analog Guard, Inc. - a Texas corporation • www.analoguard.com
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Company Overview

Signal Advance, Inc. (OTC: SIGL) is a Texas-based, publicly reporting technology company built around a core discovery: reducing delay in analog signal detection and processing, based on the phenomenon of negative group delay. Since 2007, the Company has pursued licensing and commercialization of its proprietary Signal Advance® technology - patented in the U.S., China, Europe, Mexico, and India - across medical, industrial, transportation, and defense applications.

That signal-processing capability led to Signal Advance's most significant recent development: Analog Guard®, a physical-layer, hardware-rooted encryption platform. Effective January 1, 2026, the Company transferred all Analog Guard-related patents and assets into Analog Guard, Inc. ("AGI"), a newly formed Texas corporation and wholly-owned subsidiary. Signal Advance holds 100% of AGI's equity and has invested approximately \$3.97 million to date in the technology and IP now held by AGI.

Signal Advance® - The Core Technology

The Company's original platform temporally advances analog signals to offset detection, processing, and response delay, improving performance in control, interventional, and signal-transmission systems. Applications span cardiac rhythm management and neurostimulation devices, industrial process control, transportation, and defense targeting systems. The technology is patented across five jurisdictions, and the Company continues to pursue licensing discussions in parallel with its focus on Analog Guard®.

Analog Guard® - What It Does

Analog Guard converts digitally represented information into controlled analog signal states, applies key-controlled nonlinear transformation, and returns the protected signal to digital form for storage or transmission. Authorized recovery uses a matched inverse process; a mismatched key is intended to produce output approximating random data rather than a partially readable result, giving the platform a fundamentally different failure mode than conventional digital encryption.

- **Defense in depth** - Complements - rather than replaces - AES, post-quantum cryptography, HSMS, VPNs, and other established digital controls.
- **Physics-layer separation** - Uses continuous-time circuit behavior and dynamic transfer-function control, not digital mathematics alone.
- **Multiple implementation paths** - Supports discrete circuitry, cascaded/parallel stages, future ASIC or semiconductor integration, and potential USB/M.2 form factors.
- **Broader ecosystem potential** - Related provisional families extend toward distributed reconstruction keys, live-signal authenticity, AI-execution governance, and blockchain authorization.

Recent Technical Progress

The program has moved beyond concept and simulation into hardware prototyping. Validated models have been translated into circuit designs and schematics; PCB layouts are in progress and nearing completion. Current work focuses on fabricating and testing physical encryption/decryption hardware, confirming matched-key recovery, and correlating bench performance with the simulation record.

- **Simulation evidence** - Ciphertext bit-error-rate near 0.5, with matched-key recovery consistently demonstrated in modeled tests.
- **AI / ML testing** - Models performed near chance on unseen protected data in prior validation, indicating resistance to pattern-based attacks.
- **Hardware status** - Schematics complete; PCB layouts nearing completion; fabrication and bench validation are next.

Defensible Intellectual Property Platform

The Analog Guard portfolio includes three issued U.S. patents, a fourth application allowed with 30 claims, international filings via the PCT process in China, Germany, and India, and four provisional expansion families spanning nonlinear analog protection, cascaded/multi-key structures, and dynamic transfer-function control.

The underlying work traces to Dr. Chris Hymel's 2010 doctoral research and a 2011 IEEE Circuits and Systems Magazine feature - the same research program that originally produced Signal Advance's core signal-delay patents, establishing a long technical development history ahead of the current prototype program.

Commercial Strategy

- **IP licensing** - Primary path for adoption by semiconductor, cybersecurity, data-storage, and embedded-system partners.
- **OEM & silicon integration** - Reference designs, modules, M.2/USB implementations, FPGA deployments, and eventual mixed-signal IC integration.
- **Government & defense** - Prototype funding, validation, and mission-specific deployments via federal research and procurement channels.
- **Strategic transaction** - Potential acquisition or partnership with a defense prime, semiconductor company, or cybersecurity platform provider.

Signal Advance also continues to pursue licensing of its original signal-delay technology in medical-device and industrial-control applications, independent of Analog Guard.

Team

- **Chris M. Hymel, Ph.D. - CEO, CFO & Director.** Founder and principal investigator of Signal Advance and Analog Guard, with 40+ years in engineering, research, IP, and business leadership. He holds B.S./M.E. degrees in Electrical Engineering from Texas A&M and a Ph.D. in Biomedical Sciences from UT Health, is an inventor on multiple U.S./international patents, and authored the 2011 IEEE feature article.
- **Ron Stubbers, B.S./M.B.A. - COO & Director.** Electrical engineer and commercialization executive with 30+ years in product development, manufacturing, and regulated technology, including FDA, CE, ISO, FCC, UL, and CSA pathways. A co-inventor of the foundational Analog Guard patent, he leads prototype translation, certification planning, and commercialization.
- **Richard C. Seltzer, J.D., LL.M. - Corporate Secretary & Director.** Texas-licensed attorney with an LL.M. in Taxation and experience in corporate and tax law, mergers and acquisitions, securities matters, and contract/license negotiations.
- **Naser Otman, Ph.D. - Technical Contributor & Significant Shareholder.** Electrical engineer and photonics specialist with 20+ years in mixed-signal hardware, nonlinear systems, optical communications, and signal analysis. His research and university background supports Analog Guard's nonlinear modeling, system architecture, circuit refinement, and prototype development.

Internal IP Valuation Context

An August 2026 internal management-planning valuation estimated the Analog Guard IP portfolio's fair market value at approximately \$32 million (range: \$25-40 million), weighted toward the issued and allowed core patent family and discounted for the absence of production hardware and product revenue. This is a management-planning estimate only - not a certified appraisal or investment recommendation.

Near-Term Value-Creation Milestones

- **PCB completion** - Finalize layouts, fabricate boards, complete initial bring-up.
- **Circuit validation** - Confirm forward and inverse transfer behavior in hardware.
- **End-to-end prototype** - Repeatable encryption, matched-key recovery, wrong-key rejection.
- **Independent testing** - Witnessed security, statistical, and AI-resistance results.
- **Commercial engagement** - Convert technical evidence into licensing, OEM, and government discussions.

Investment Perspective

For Signal Advance shareholders, the opportunity is to convert a mature and expanding patent position - held entirely within a wholly-owned subsidiary - into independently validated hardware and commercially actionable proof. The immediate inflection point is successful prototype fabrication and bench validation, which would materially reduce technical risk and strengthen licensing leverage.

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Additional Analog Guard technical detail is available at www.analoguard.com. This document contains forward-looking statements; actual results may differ materially. Signal Advance undertakes no obligation to update these statements except as required by law.