

ROSA™

Responsive Observation Security Agent



AUTONOMOUS SECURITY

ROSA GEN4 DELIVERS 180° AI-DRIVEN DETECTION
AND REAL-TIME DETERRENCE AT THE EDGE.

Security That's Smarter, Faster, And Always On Duty.



Growing Security Challenges

Organizations are experiencing a rise in security threats, including trespassing, loitering and theft while struggling with limited resources. Traditional security solutions fall short, leaving critical vulnerabilities unchecked.

ROSA™ Gen4 is the security agent that never sleeps. Developed by Robotic Assistance Devices, Inc.™ (RAD), ROSA delivers AI-driven detection, deterrence and response 24/7 while reducing costs.

Driven by edge AI, real-time autonomous response and rapid deployment, ROSA Gen4 proactively safeguards properties without requiring constant human oversight.

Autonomous Deterrence

ROSA Gen4 represents a breakthrough in AI-driven security, combining lightning-fast detection with automated deterrence.

AI-driven autonomous response instantly detects and reacts to unauthorized entry, loitering and firearms.

Blazing-fast alerts and intervention use upgraded 110 dB speakers and advanced microphones for clear, long-range audio deterrence.

Comprehensive 180° surveillance from a single unit delivers wide-area monitoring with night vision.

Self-healing runs automated diagnostics and system tuning to keep ROSA online and performing.

ROSA doesn't just observe. It acts with real-time audio and visual deterrents and flashing LED alerts so intervention starts immediately.

Autonomous Escalation

SARA™ Agentic AI takes charge when deterrence isn't enough. Designed for escalation scenarios, SARA steps in to communicate, coordinate, and activate enhanced security measures across your sites.

This includes initiating outbound calls, alerting security teams, and accelerating response when every second counts.



Edge Computing

AI analytics run on NVIDIA Jetson Orin NX, a system-on-module (SoM) designed for embedded and edge AI applications.

It delivers high performance in a compact, power-efficient form factor while reducing latency, enhancing security and minimizing bandwidth usage.

Seriously Powerful



AI-Driven Surveillance

Dual sensors provide a 180-degree field of view for intelligent threat detection.



Intelligent Detection

Instantly identify human presence, vehicles and firearms in real-time.



Autonomous Intelligent Response

Respond to unwanted activities such as loitering and perimeter breaches.



Real-Time Audio Deterrent

Equipped with real-time audio alerts and clear two-way communication.



Real-Time Visual Deterrent

Fully customizable dynamic LED digital alerts provide real-time warnings.



Command and Control

Receive real-time alerts and easily manage multiple units with RADSOC.

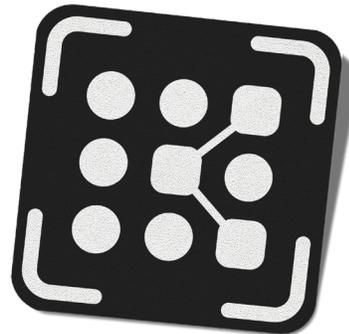


SARA™ Agentic AI

Eliminates the need for human remote monitoring by instantly detecting and autonomously responding to threats.

AI-Driven Detection

ROSA uses RAD AI analytics to understand what's happening on site in real-time so it can start the right response the moment your rules are met. Every analytic focuses on people, vehicles and objects, all processed at the edge on ROSA and managed through RADSOC.



Human Detection

ROSA continuously detects people as they enter monitored zones, approach doors, gates or storefronts, or stay in an area longer than they should. It's tuned for real-world security scenarios like perimeter breaches, after-hours presence and loitering around sensitive areas such as loading docks, employee entrances and parking areas.

You define zones and schedules in RADSOC. When conditions are met, ROSA can trigger on-device responses like voice downs, LED changes and on-screen messages, while also sending detailed alerts to operators with video and event context.



Vehicle Detection

ROSA also monitors vehicles as they move through its field of view. It detects vehicles entering or passing through monitored areas and flags those that stop, idle or park where they shouldn't, such as fire lanes, loading zones or restricted access points.

This gives security teams clear visibility into traffic patterns and helps them enforce parking and access policies without constant patrols. When a vehicle meets your rule criteria, ROSA can respond with visual and audio warnings and notify monitoring personnel through RADSOC.



Object Detection

ROSA supports object-focused analytics for both safety and security. It can identify whether people are wearing required PPE such as hard hats or high-visibility vests in designated zones, helping sites enforce safety standards and document compliance.

For high-risk situations, ROSA detects the presence of firearms within its field of view so teams can escalate quickly when a weapon appears on site. Events are logged with time, location and video to support both immediate response and post-incident review.



Say Anything

From friendly greetings to serious security warnings, ROSA Gen4 can say and display what you need, when you need it. Its upgraded LED panel turns every unit into a high-visibility communication beacon designed by the team at RAD.

The wide, bright display keeps messages legible at a distance and in difficult lighting so critical information is understood immediately. During emergencies, clear visual directions and warnings help people move safely and reduce confusion.

Day to day, ROSA can broadcast welcome messages, parking instructions, way-finding tips, tenant notifications and policy reminders, keeping sites informed and engaged without tying up staff.

Users can easily edit and manage this visual content in RADSOC, from company logos and announcements to time-sensitive security alerts, then push updates directly to individual devices or entire fleets in seconds.

AI-Driven Responses

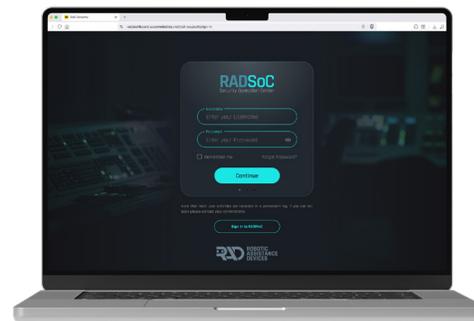
When detection rules on the previous page are met, ROSA automatically triggers the right mix of light, sound and messaging to change behavior in the moment, giving every incident a visible response within seconds.

Real-time LED messages and voice downs act as strong visual and audible deterrents, making it clear that activity is being watched and recorded. Clear security instructions and warnings help redirect trespassers and push unwanted visitors away from the premises.

Sites can build libraries of pre-approved messages for common scenarios like loitering, after-hours access, deliveries and emergencies, so every response feels intentional and consistent across locations.

Because content is updated remotely and in real time, organizations can adjust messaging as conditions change without sending staff to the unit. This keeps communication current and streamlines day-to-day operations.

When an incident needs a human decision, operators can step in from RADSOC at any time, see exactly what ROSA is displaying, trigger custom messages and coordinate the response as the situation evolves.



RADSOC Management Software

Edge AI + RADSOC Management

ROSA handles detection and first response at the edge so events are recognized and acted on in seconds, even when network conditions are limited. RADSOC ties everything together as the central command layer.

Inside RADSOC, operators see detections, live video, device status and recent history for ROSA and other RAD units in a single view. They can:

- Tune detection rules, zones and schedules without touching field devices
- Adjust deterrent actions, audio scripts and LED messages across sites
- Monitor device health, connectivity and battery status at a glance
- Review and export clips and logs for investigations, audits and training

RADSOC also provides multi-site reporting so teams can compare incident volume, response times and system performance across locations. All security events are stored securely in the cloud for a full year so teams have easy access to past incidents without on-site storage or surprise infrastructure costs.

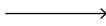
When your organization adds SARA Agentic AI, RADSOC becomes the workspace where SARA orchestrates cross-device responses and incident workflows in real-time. If a situation escalates, SARA initiates outbound calls so the right people are alerted without delay.

Unified With The RAD Ecosystem

RADSOC brings ROSA, RIO, ROAMEO, AVA, RADCAM and future RAD devices into a single interface. Operators can move between sites and device types with one login and consistent workflows instead of juggling separate software for each vendor.



Easily customizable LED signage and alerts that react based on activity



5G or Wi-Fi connectivity



Two-way audio for talk-downs and alerts



2 x PTZ cameras provide a 180° view of your property



ROSA Gen4 Technical Specifications

Model	ROSA Gen4
Image	2 x PTZ Cameras
Horizontal FOV	180°

Environmental

Operating Temperature	-15°C (5°F) to +50°C (122°F)
Humidity	0% to 90% (Non-Condensing)

Audio Communication

Speaker	5.5" (127mm) High Efficiency 100W, 110dB speaker.
Microphone	High Sensitivity, Dual Mic Array, Noise Suppression and Echo Cancellation.

Mechanical

Weight	22.9 lbs. (10.4 kg)
Dimensions	Width 24.5" (623 mm)
	Height 13.1" (332 mm)
	Depth 12.1" (307 mm)

Display

Panel FOV	Dual Panel 180° LED Display
Main Display	Customizable Curved LED Panels
Ribbon Lights	Customizable RGB Neopixel Lights

Electrical

Auxiliary Power	100-240 VAC
Current	60 W (typical), 140 W (max)
Battery	60 min

System

Main Processing Unit	RADPACK G2 Processing Unit
Video Processing Unit	NVIDIA Jetson Orin NX, 16GB
Storage	2TB SSD

Connectivity

Type	Cellular Optimized: 4G / 5G
Speed	300 Mbps max (Cat 6 LTE)

SARA Agentic AI Security Incident Response Orchestration



Detection

Immediate threat detection, through AI-driven analytics.

Verification

SARA Agentic AI verifies alerts in real-time.

Deterrence

Autonomous audio and visual pushback to deter intruders.

Escalation

SARA Agentic AI escalates incidents to responders.

Response

Responders receive scene updates and direction.

Resolution

Incident reports are generated instantly.



Real-Time Security, Orchestrated By SARA

SARA is designed to match your site's needs, from single locations to multi-site deployments. It connects ROSA and other RAD devices into one incident orchestration layer, reducing noise alerts and giving teams faster, verified incidents to act on.

Security doesn't need to be complex. It just needs to act quickly and consistently when something happens.

Full Incident Management

Every ROSA unit ships with AI-driven detection and pre-loaded deterrent responses, so first response happens automatically without an operator watching every camera.

Adding SARA Agent and SARA Edge turns ROSA into part of a full incident orchestration layer. SARA verifies events, initiates voice-downs and outbound calls, routes notifications to the right people, and creates a complete, time-stamped record of what happened and how it was handled in real-time.

This upgrade doesn't require new hardware on ROSA and can be activated on demand across one site or many.

See ROSA And SARA In Action

Watch how ROSA handles detection and deterrence while SARA Agentic AI verifies, escalates and documents incidents in real-time.



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