

HEXWAVE™

Walkthrough Detection of Concealed Weapons and Threats



Liberty Defense

RELENTLESS SECURITY OPTIMIZATION

The HEXWAVE™ system processes people quickly and effectively, providing touchless screening at the checkpoint or perimeter for enhanced protection, a layered defense, and a better experience.

The HEXWAVE portal scans for all types of concealed threats on person – non-metallic as well as metallic threats like 3D printed guns and improvised explosives.



- **Touchless, seamless, high throughput** flow (700+ ppl/hr)
- **Metallic and non-metallic threats detected** including liquid, powder, and plastic explosives, 3D printed ghost guns, etc.
- **No required divestment** of benign items like jackets, steel toe boots, or other clothing
- **Real-time automatic** go/no-go decision for operator indicating type and location of threat
- Maintains **personal privacy** and no images are seen or stored
- **Portable, flexible, cost-effective** deployment. Can be used indoors/outdoors (covered), attended/unattended, inside/outside of the checkpoint
- **Millimeter wave** technology is proven safe and effective for people screening
- Video-rate **3D imaging powered by AI** delivers enhanced threat detection
- **Switchable AI algorithms** for operational flexibility and threat levels
- Software updates provide **future proofing** to incorporate emerging threats and new requirements
- **Integrates Smart IoT** functionality for connectivity to existing security systems (VMS, access control)

FRictionless PROTECTION

The HEXWAVE system provides a layered defense to ensure safe, touchless, advanced detection in many applications and venues types.

- Sports Venues
- Entertainment Venues
- Casinos
- Hotels
- Tourist Attractions
- Shopping Malls
- Office Buildings
- School Campuses
- Places of Worship
- Distribution Centers
- Government Buildings
- Air and Sea Ports



FEATURES and SPECIFICATIONS

Open Design

No overhead structure, no floor cabling between panels. Wireless setup configurable

Alarm Indicator

Threat indication at exit. Audible alarms optional

Depth Camera

Auto-triggered by person walking through (no operator intervention)

Barrier Integration

Retractable barrier belt integration

Power

Power is required to each HEXWAVE device

Mobile

Wheels and handle holds allow for relocation. Wheels lockable

Walk-Thru Spacing

Easily adjust the distance between the devices, ADA wheelchair compliant



Enhanced Detection

Powered by 3D video rate imaging and AI deep learning to capture and process ~400,000 datapoints per image

Uses millimeter wave, low power radar and emits non-ionizing radiation, much less than cell phones and Wi-Fi

Connected

Smart IoT functionality for connectivity to existing security systems (VMS, access control)

Dashboard

Supports data analytics and reporting

Future Proof

Over the air AI algorithm updates for threat updates and software upgrades

Automatic Alerts

Gives operators a clear go/no-go decision, location of threat, and visible/audible alerts

Flexible

Portable/Fixed deployment, indoors and outdoors (under cover)

THREAT ALERTS METALLIC and NON-METALLIC

IEDs

Plastic
Liquid
Powder explosives



RIFLES

SHOTGUNS

HANDGUNS

Full-size
Compact
Sub-compact
3D printed/ghost



KNIVES

Ceramic
Plastic
Metal



PHYSICAL SPECIFICATIONS

Panel Height – 1.86 m (73.3")

Panel Width – .91 m (36")

Panel Depth – 0.2 m (8.2")

Base Width – 1.11 m (43.8")

Base Depth – .66 m (26.1")

Weight – each panel is ~140 lbs (~63kg)

Wheelbase locks for stability

Optimal panel placement – 1.62 m to 1.82 m (64" to 72") apart (portal); 1.75 m (69") apart (S Configuration)

CONNECTIVITY

Ethernet (IEEE 802.3)

WIFI (IEEE 802.11 a/b/cg/n/ac)

System supports open standards for cyber security

ENVIRONMENTAL DATA

Unaffected by proximity to EMI or metal

Power Supply:
100 to 264 VAC, 47 to 63 Hz, 2000 VA

Operating Temperature: 42°F to 95°F/ 5°C to 35°C

Storage Temperature:
32°F to 113°F/ 0°C to 45°C

Relative Humidity:
20 to 80% (without condensation)

CERTIFICATION AND COMPLIANCE

Compliant with applicable FCC regulatory standards

Compliant with safety standard UL 62368-1:2019 Ed. 3

Compliant with applicable International Standards for electrical safety and EMC*

* in progress