



Oplink TripleShield™

Integrated Alarm, Monitoring, Surveillance System and Service

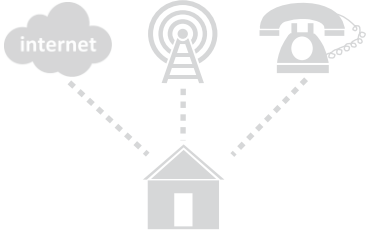


Introduction and background

The ubiquity of wireless devices makes it necessary to create a collaborative environment for devices to interact and communicate with one another and with the user. There is a great need to integrate higher bandwidth video data with audio and sensor data in order to achieve system integration and usability in the security industry. Traditionally, the security industry has largely been completely reliant on older technologies such as PSTN lines and call monitoring services. These systems have been greatly under-deployed because of the complexity and costliness of the professional installation requirement, which creates a barrier to entry for most users. To succeed in the industry's current trend toward ubiquitous access and mobility, some companies have recently attempted to bridge this gap by introducing other do-it-yourself wireless security products. However, these solutions fail to achieve the type of usability required for mass deployment and fall far short of meeting the security industry's standard for safety readiness.

Oplink takes advantage of device collaboration and mobile ubiquity by offering TripleShield™ in-a-box security solution, the most comprehensive wireless security of its kind. Through years of expertise in device collaboration and security system integration, the uniqueness of TripleShield™ is clearly identified in the following areas.

Multiple External Communication Channels for Robust Fault Tolerance:



- 1. Internet Access (Cable, DSL, or Fiber optic)
- 2. Cellular Network

Most security systems only provide two external communication links to meet minimum security industry standards because of technological complexity and cost. Oplink TripleShield™'s innovative design can offer an enterprise grade security and redundancy useable for home as well as business. The primary method of connecting the TripleShield™ security system to the Internet is through a local modem such as cable, DSL, or fiber to the home. If this connection is compromised or fails, a secondary cellular connection such as 3G/4G with battery backup will be used to prevent any breakage in the security network connectivity.

Multiple-Protocol Signal Bridging:



1. **WiFi signal**
2. **433/426 MHz RF**
3. **Z-Wave**

Video transmission requires higher-bandwidth connectivity while audio or control signal data can be transmitted using a lower-bandwidth connection. The integration of both high and low bandwidth connections into a single system is the key to device collaboration and interactivity. Oplink TripleShield™ directs video and audio traffic using high bandwidth WiFi signals, and it manages home automation and energy control signals using lower bandwidth Z-Wave protocol. This seamless integration provides the basis of TripleShield™'s security platform.

Triple User Protection



1. **Burglar**
2. **Fire**
3. **Care**

The Oplink TripleShield™ provides burglar protection with a network of wireless magnetic contact sensors, passive infrared motion detection sensors, both outdoor and indoor wireless IP cameras with night vision and two-way audio capability, high decibel alarm sirens, high capacity flash memory units for video and image storage, and mobile app for instant audio/video streaming. In the event of intrusion, a push notification will be immediately sent to the TripleShield™ app on the user's Smartphone. If the user does not resolve the situation in time by deactivating the alarm, the siren will sound and deter any further intrusion. As a growing number of law enforcement agencies across the nation face budget cuts and shortage of staff, it has become more difficult to receive police dispatch services without direct evidence or intrusion. With TripleShield™,

sensor-triggered events are automatically recorded and saved as video evidence on the Oplink Cloud, retrievable for up to a certain period of time from the cloud, and can be saved on your personal storage unit and shared with local authorities at any time. Additionally, fire protection can be provided by adding a sonic sensor to the security network.

TripleShield™ goes beyond home and property protection. Its Interactive Care products and service offer protection in the event of a medical emergency or any situation demanding immediate response with passive motion sensors configured to respond to long period of idleness and programmable personal panic remote control. TripleShield™ can be included as part of the security package or be offered as a standalone system, complete with the same dependable notification and alert protocol.

Multi-Tier Access Hierarchy



1. **Smartphone Owner**
2. **Authorized Contact**
3. **Emergency Contact (or Call Center)**

TripleShield™ offers a three-tier access hierarchy to the security system. In addition to the privilege of viewing and recording from all the IP cameras in the system, receiving notifications of sensor-triggered events on Smartphone/tablet apps, and sharing image/video of the recorded event with others, the Smartphone user (account holder) can also set access priorities to two other classes of people: authorized contacts and emergency contacts. Authorized contacts are family members or trusted individuals who have the same video viewing and event notification privileges. After a sensor-triggered event, the Smartphone owner and authorized users will receive notification on the app or through email at once. However, an authorized user

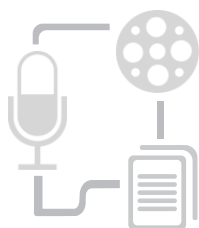
cannot grant anyone else access to the security system. Nor can an authorized user add or delete security devices from the account or otherwise make changes to the account itself. Emergency contacts act as the last line of defense during an emergency event. They receive email and text notifications of event occurrences if both the Smartphone owner and the authorized contacts fail to resolve the emergency situation by deactivating the alarm in time. Oplink understands that homeowners may prefer trained professionals to handle such situations. If so desired, a remote call center can be programmed as an emergency contact and receive notifications of emergency events. Such professional response unit may contact the local police or private security personnel to handle the situation.



1. **Multiple Locations**
2. **Multiple Cameras**
3. **Multiple Sensors**

TripleShield™ runs on a totally scalable network infrastructure. With multiple Oplink Processing Units (OPU) installed, multiple locations with multiple cameras can be deployed as part of the same security system. For instance, a user can view all 8 of his cameras installed in his San Francisco office and the 4 cameras installed in his home in Paris at the same time on the free TripleShield™ app. The scalability applies to beyond remote monitoring as all locations can have potentially unlimited number of security sensors.

Multiple Types of Content



1. **Audio**
2. **Video**
3. **Text**

Treating different data types from different sources require the capability to differentiate between various standards and protocols and combine them in a useful way. Oplink TripleShield™ supports broadband protocols such as WiFi, 3G/4G and Ethernet for video and audio transmissions. Text-based data originating from sensors or sent to control devices used for home automation are typically handled by narrowband protocols such as Z-Wave or 433 MHz RF. TripleShield™ successfully combines both broadband and narrowband signals and produces usable security content easily accessible on the mobile interface.

Compatible with all 3 Major Mobile Platforms



1. **iOS**
2. **Android**
3. **Windows Phone 8**

The free-of-charge TripleShield™ mobile app is available on mobile devices running Apple's iOS, Google's Android or Microsoft's Windows 8 mobile operating platforms. The app is designed for maximum user friendliness while maintaining security integrity. All personal user information is protected by bank-level 256-bit AES encryption. With the proper authorization, the apps can also be used by secondary authorized users for all video viewing, event notification and other security purposes.

Multi-capability

Available on Multiple Types of Mobile Devices



1. Smartphone
2. Tablet
3. PC
4. Notebook
5. Netbook

Two essential qualities of a robust security system are swiftness of information delivery and attention to detail. As mobile devices such as Smartphones and tablets proliferate, the user expectation for instant information access grows. With Oplink TripleShield™, the user has the power to monitor and record her protected surroundings instantaneously anywhere at any time, all in the palm of her hand. Upon a sensor-triggered event, the TripleShield™ user will also instantaneously receive an alert notification of the event as well as an automatically recorded video of the event. Oplink understands that the user will often demand access on various types of machines depending on whether the user is at home or at his office. In addition to Smartphones and tablets, TripleShield™'s multi-viewing and instant notification services are also available on PC's, notebooks and the increasingly popular netbooks.

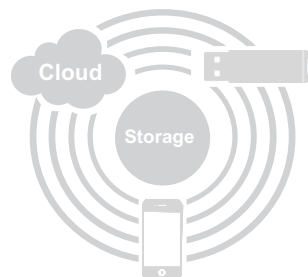
SCS (Sensor, Camera, Storage) Auto Add-on



1. Adding New Sensors
2. Adding New IP Cams or existing Smartphones/ tablets or combining existing security system with TripleShield™
3. Adding storage devices

Oplink's patent pending plug-n-play means that the user will no longer be shackled by the complexity of installation at any point. When the user scales up his TripleShield™ system, new sensors, new IP cameras, and additional storage devices are added to the existing system with the same simplicity as when she first installed the system. In addition, TripleShield™ allows older compatible Smartphones or tablets to be automatically added on as IP cameras accessible through the cloud on the mobile app. As yet another added bonus, if a third-party security system already exists, the older system can easily be connected to the TripleShield™ device collaboration system.

Multiple Storage Mediums



1. Cloud
2. Local Drive (e.g. Flash Drive)
3. Smartphone/tablet

TripleShield™ safely stores event-triggered videos and images as well as account information and other personal data on its cloud using bank-level AES data encryption. Videos and images can also be stored on a local flash drive or the user's mobile device. TripleShield™ automatically converts the video file into an email-ready attachment, giving the user the option to easily share recorded evidence with local authorities when necessary.

The Oplink Vision

Just as Smartphones revolutionized the world by changing the way people share and gain access to information, Oplink's device collaboration technology is revolutionizing the security world by changing the way people manage and gain access to their security devices.