

Onboard Ship Cyber Security Recommendations

Quantalytics appliances are designed to be used independently,
or can be combined in packages to maximize cybersecurity effectiveness.
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Introduction

Ships operate with many of the same technologies as factories, power facilities, hospitals and hotels. They all leverage network technologies to function. As advantageous as these technologies are, they also present a wide variety of vulnerabilities that expose the operators to financial liabilities as well as safety issues. There are two primary types of networks we are concerned with: Operational Technologies and (OT) and Information Technologies (IT).

- OT is hardware and software that directly monitors/controls physical devices and processes.
- IT covers the spectrum of technologies for information processing, including software, hardware and communications technologies.

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Types of attacks:

- Malware
- Phishing
- Water holing
- Scanning
- Social engineering
- Brute force
- Denial of Service (DoS)
- Spear-phishing



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Attack Vectors

- Email
- Web Servers
- Print Servers
- USB Ports
- Thumb Drives / External Drives
- Internal Web Sites
- Inside Actors
- Visiting Agents

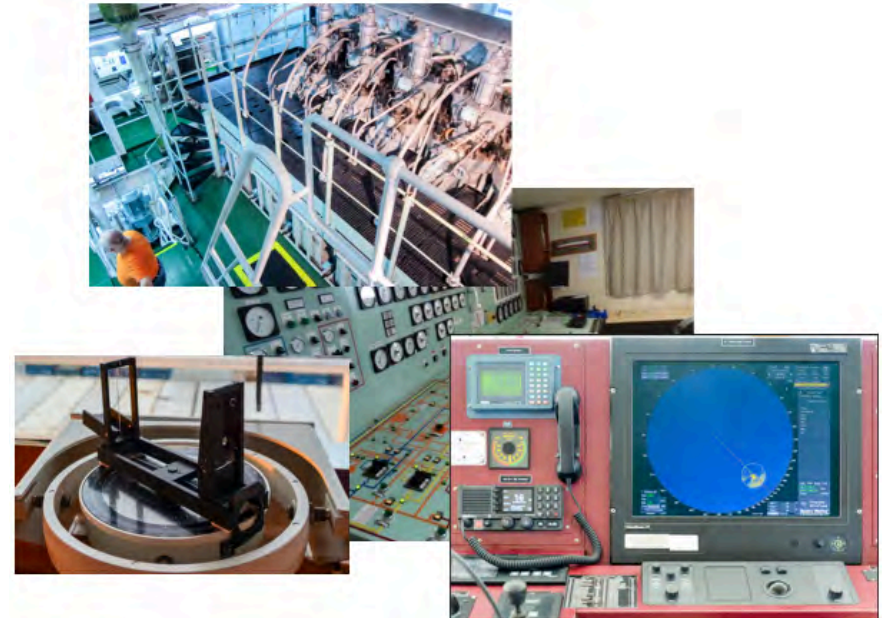


Produced by HAC5. Available on Amazon for \$119.99.

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Ship Board Vulnerabilities:

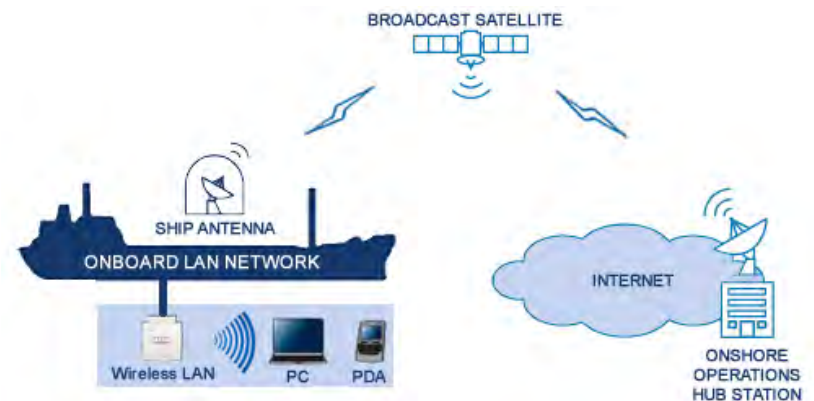
- Cargo Management Systems
- Bridge Systems
- Propulsion and Machinery Management and Power Control Systems
- Access Control Systems
- Administrative and Crew Welfare Systems
- Communication Systems



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Ship-to-shore interface:

- Engine Performance Monitoring
- Maintenance and Spare Parts Management
- Cargo, Loading and Unloading, Crane, Pump Management and Stow Planning
- Voyage Performance Monitoring
- Communications



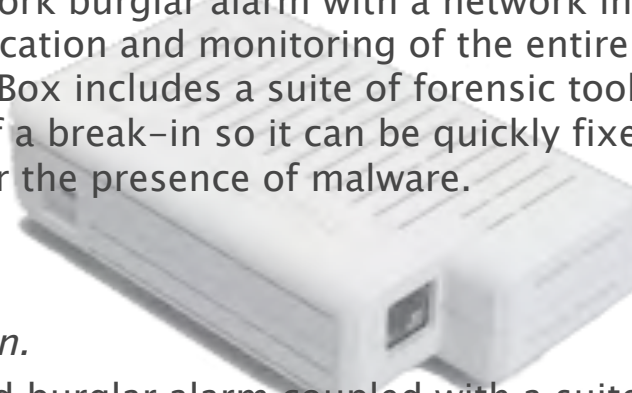
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Solutions: Intrusion detection

Q-Box®

Foundational Network Security.

The Q-Box combines a network burglar alarm with a network inventorying tool. Inventorying enables identification and monitoring of the entire network's running services and assets. The Q-Box includes a suite of forensic tools to help find and diagnose the exact nature of a break-in so it can be quickly fixed. Q-Box evaluates the contents of the traffic for the presence of malware.



Q-IDS®

Advanced Intrusion Detection.

The Q-IDS is a high-powered burglar alarm coupled with a suite of forensic tools to automatically alert and identify the exact nature of a network breach so it can be quickly fixed. Quantalytics recommends the Q-IDS appliance if the inventorying and monitoring tools found in the Q-Box are not required.

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Solutions: Periodic vulnerability scanning and testing

Q-Vul®

Vulnerability Assessment System Appliance

The Q-Vul scans networks to identify unpatched, open vulnerabilities that can lead to security breaches. It examines all types of network hardware (e.g. routers) and software, as well as workstations and servers.

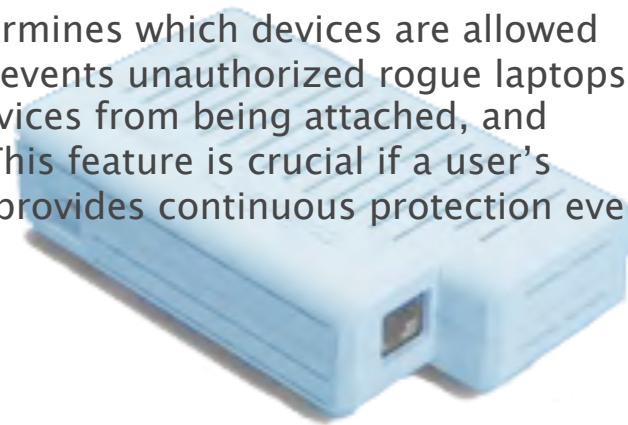


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Solutions: Controlling user access, removable media, password policies, and whitelisting

Q-NAC®

The Q-NAC (Network Access Control) Appliance determines which devices are allowed on a network, as well as their access privileges. It prevents unauthorized rogue laptops, thumb drives and any other physical and wireless devices from being attached, and blocks illegitimate user activity by denying access. This feature is crucial if a user's credentials have been compromised. This appliance provides continuous protection even if Internet service is interrupted.



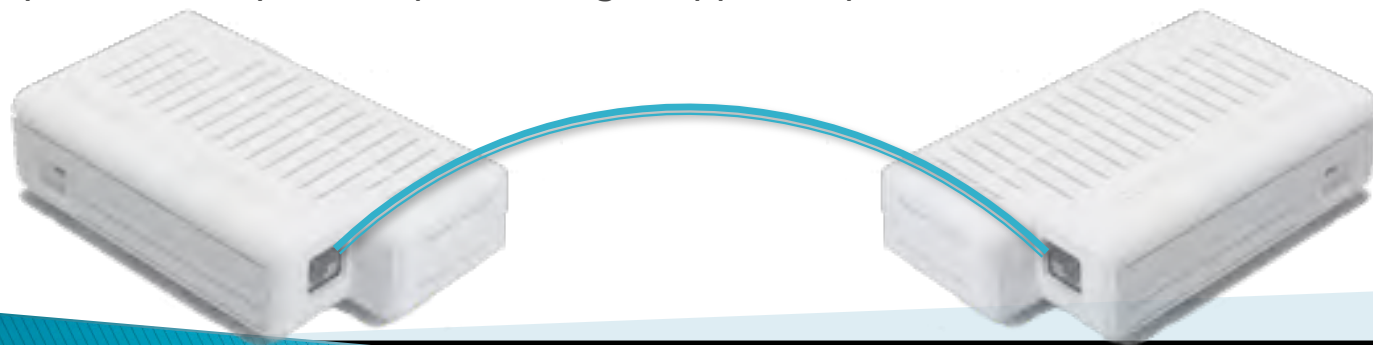
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Solutions: Providing Secure Connections

Q-VPN®

Virtual Private Network

The Q-VPN provides a secure, encrypted connection between computers at various diverse locations, including LANs, and is fully compatible with all types of VPN software. It allows scheduling, as well as highly restrictive individual user controls. Unlike most other VPNs, Quantalytics' monthly subscription charge supports up to 10,000 VPN users.



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Solutions: Wireless Access Control

Q-WiFi®

Detects and Defeats false Wi-Fi Networks (“Evil Twins”)

The Q-WiFi detects and defeats imposter (“Evil Twin”) Wi-Fi networks by preventing users from logging into fake, look-alike wireless networks used by hackers to steal user credentials. The Q-WiFi blocks access to Wi-Fi networks until the Evil Twin can be found and removed. This prevents innocent “guest” users from logging onto fraudulent networks, thereby protecting users’ various website login credentials from exposure to hackers. Q-WiFi is ideal for all public WiFi environments.

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Solutions: Network Obfuscation

Q-ConPot®

Specialized Honey Pot for ICS and SCADA networks

The Q-Conpot is a honeypot for ICS (Industrial Control System) and SCADA (Supervisory Control And Data Acquisition) networks. The real devices are camouflaged by thousands of phantom devices, each mimicking human activity and making them virtually impossible to spot, thereby radically reducing the odds of a successful hack. Honeypots can also act as an additional tripwire to alert an intrusion attempt.



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About Our Products:

Our **appliances** offer exceptional performance for a fraction of what other manufacturers charge. All of our products are administered through an easily used Graphical User Interface, so implementation and management are clear and easily performed. This opens up information security to all levels of IT specialists. Each appliance is housed in a palm-sized case with very low current draw.

Quantalytics network security appliances offer a turnkey solution with our subscription-based model. This includes all hardware, software, maintenance and upgrades. We do not require any upfront capital expense (CapEx) for hardware as normally required by other manufacturers.

Quantalytics appliances are designed to be used independently, or can be combined with other manufacturers products to maximize your cybersecurity investment.

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About Quantalytics:

Quantalytics, Inc. from its establishment over 30 years ago, has focused on cyber security. Initially, it was just endpoints. However, as networks evolved in size and complexity, Quantalytics evolved with them, to the point that we have created our own highly cost-effective network security appliances. We believe that network security needs to be far more widely available, and far easier to deploy and use than what the incumbents are offering.

These are our goals.

We now offer what we believe to be the most cost-effective network security appliances in the cyber security industry, spanning a wide range of functionality. In certain cases, our products are unique. Additionally, we offer custom-designed network security appliances for your unique needs.

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For more information please visit our web site:

www.quantalytics.com

We thank you for your interest and
look forward to your questions and comments.

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