SigNet™

Sophisticated Cyber-RF Solutions and Professional Services

Dominating the WiFi Medium with Cutting Edge Cyber-RF Techniques

The modern world is using wireless communication more than ever before, presenting new intelligence interception opportunities in the RF domain. Relying on Elbit Systems EW and SIGINT - Elisra's leading position in the RF world, Sigmabit – a wholly owned subsidiary of Elisra, specializing in the cyber domain – provides a cutting-edge Cyber RF solution for Intelligence interception as well as unique surgical electronic attack capabilities. All of these solutions are fully developed in-house by Sigmabit's Cyber-RF hacking group and are enhanced by Elisra's powerful EW algorithms.

Intelligence Interception and Unique Surgical Electronic Attack

SigNet is our Cyber-RF intelligence system tailored to address the WiFi medium challenges in various operational scenarios and configurations. The system operates in active and fully passive modes, providing access, inspection and manipulation of encrypted WiFi communications and supporting all common protocols, including WPA2, WPA, WPS and WEP.

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Supported Operational Modes

Designed for military forces as well as homeland security agencies, the system can operate either on a standalone basis or can be integrated as an add-on with existing intelligence interception solutions. The various RF interception kits allow for a wide range of operational scenarios, from long-range cross-border interception distances reaching up to 4 km, through operating in dense-urban areas from hundreds of meters, or tactical covert operations using minimized hardware kits. When required, the solution provides smart, low profile, soft-kill capability designed to influence only the target and avoid quick detection.

System Interception Capability Highlights

SigNet scans, collects, deciphers and intercepts valuable information – such as access point names (also known as SSIDs), MAC addresses and encryption types, which are used to quickly classify and identify the WiFi arena. The intercepted information is presented in the user-friendly SigNet Command & Control dashboard, allowing the operators to easily identify targets and decide which traffic will be intercepted and which WiFi networks will be attacked and deciphered.

With the superb RF capabilities, WiFi deciphering technology and the cutting-edge Passive Interception Mode, the SigNet system can gain access to the target device via the intercepted WiFi network, and perform traffic manipulations that are critical for cyber activities. The embedded cyber capabilities include a redirect function, which enables cyber operations and man-in-the-middle/loop attacks on certain SSL-secured connections. The system includes an intuitive Command & Control interface which clearly displays the intercepted information and allows interaction with the intercepted WiFi networks. The overall design and the omni-directional antenna provided with the system support easy outside the box operation.

Technical Specifications

Typical Operating Range	Up to 4 km, with 9dBi Omni-directional Antenna (additional antennas available)
Supported Operational Modes	Passive & Active
Geographical WiFi Network View	Supported
Intercepted Identities of Intercepted Acces Points	MAC Address, ESSIB, OUI, Encryption Type, Number of Associated Clients (STAs), Tunnel Number, Estimated GPS location
Intercepted Identities of Clients (STA)	MAC, OUI, Authentication Packets
Number of Simultaneous Key Cracking Processes	1 (Configurable)
Encryption Cracking - Supported WiFi Standards	WPA2, WPA & WEP
Supported Encryption Cracking Methods	Combined GPGPU Brute-Force & Dictionary Attack
Number of Simultaneously Monitored WiFi Channels	1, in the basic configuration Up to 14 in the advanced configuration
Website Log-In Credentials Extraction	Supported, including passwords
Supported WiFi Standards	b, g, n
WiFi Receiver Sensitivity	802.11b:-96dBm 802.11g:-92dBm 802.11n:-91dBm
Supported WiFi Frequency Bands	2.4 GHz 5.0 GHz

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