



High-end secure communications for most radio makes and models, all frequency bands, and radio-to-telephone commander's conferencing

The DSP 9000 secure radio family encrypts communications over HF/UHF/VHF channels with exceptional recovered voice quality. Base station, handset and implant board configurations are available. Enabled by TCC's X-NCrypt® Cross Network Cryptography, the DSP 9000 interoperates with TCC's HSE 6000 headset radio and telephone encryption solution, connecting military with public safety personnel and providing commander's conferencing.

End-to-End Secure Communications

The DSP 9000 radio encryption family provides an integrated secure communications solution for air, ground and sea military operations. Half- and full-duplex models are available and it comes in base station, handset and implant board configurations. Supporting X-NCrypt Cross Network Cryptography, the DSP 9000 is interoperable with TCC's HSE 6000 headset secure radio and telephone encryption for radio to telephone point-to-point and multiparty commander's conferencing.

Universal Radio Encryption

A universal radio encryption solution, the DSP 9000 operates with most radio makes and models, and seamlessly overlays on existing networks for cost-effective high-level end-to-end security.

Exceptional Voice Quality

TCC's Enhanced Domain Transform (EDT) encryption algorithm uses a "toll quality" voice digitizer. After conversion into a digital data stream, the voice signal is processed in both time and frequency domains in a manner that maintains the output bandwidth within the original 3kHz pass band. The recovered (decrypted) voice retains its original voice quality.



DSP 9000 Military Radio Encryption available in base station, handset and implant board configurations

Cryptographic Strength

The EDT algorithm is controlled by a highly non-linear digital key stream generator. Tools are available for algorithm customization.

All key management settings are pre-selected by a security officer. The security officer generates keys and radio interface settings with TCC's Crypto Management System, and easily loads them into the DSP 9000s with TCC's SmartModule key fill device. A three-tier keying architecture, together with a randomly generated Initialization Vector, provide a new key stream for encrypting the audio. Additionally, Auto Key Change mode periodically updates the Local Key in use. Downline key indexing automatically sets the receiving units to the correct key.

Benefits

- Proven high-end security
- Exceptional recovered voice quality
- Universal encryption works with most radio makes and models, and all frequency bands
- Cost-effective solution — no equipment changes and seamless network overlay
- Automated key management
- Easy to use, deploy, manage
- Remote-control capability for vehicles, ships and aircraft installations
- Interoperates with TCC's HSE 6000 headset radio and telephone encryptor
- Secure multiparty conferencing between field and office



Crypto Management System rack mountable server and security vault

DSP 9000 Military Universal Radio Encryption

DSP 9000 Handset

The high-level security and voice processing of the DSP 9000 base station is available in a handset half-duplex configuration. The DSP 9000 HS replaces the existing manpack radio handset, adding less than one pound to the radio. The DSP 9000 HS is ideal for ground troops. Prior to initial deployment, the security officer loads keys and radio interface settings using TCC's SmartModule. Once loaded, the radio operator only needs to select cipher or plain mode.



DSP 9000 Implant Board

The DSP 9000 Implant Board is an OEM solution for radio manufacturers. It is a modular embedded board designed for easy integration into radios, and interoperates with radios secured with members of the DSP 9000 family and the HSE 6000 radio headset encryptor.



HSE 6000 Radio Headset and Telephone Encryption

The HSE 6000 radio headset encryptor is a small, lightweight solution designed for the Land Mobile Radio (LMR) applications of public safety special operations, and aircrew when on-the-ground. It operates with any handheld or squad radio and any headset/handset and is compatible with the DSP 9000 military radio encryption family. The Telephone Interconnect Kit (HSE 6010) enables both secure radio to secure telephone, and secure telephone-to-telephone communications — point-to-point and conferencing. It connects to corded handset telephones used with VoIP,



analog and digital telephone networks, and is ideal for connecting commanders and government officials to field personnel.



DSP 9000 Summary Technical Specifications

See DSP 9000 Base Station & Handset product-specific specifications

Cryptography

Enhanced Domain Transform algorithm controlled by a non-linear key stream generator

Key Management

Key management architecture with three key types: Network, System and Local Keys. Automated key management and random Initialization Vector at each sync burst transmission. Storage of 800 keys in DSP 9000 base, 200 keys in DSP 9000 HS

Accessories: SmartModule key fill device 

Crypto Management System (CMS-9000) - Windows-based, rack mountable server and security vault. Security vault generates and stores keying material in anti-tamper protected enclosure. CMS also configures interfaces and other settings and transfers them to SmartModule key fill devices for distribution to encryption units.

Other

- Half and full-duplex models and front/rear connectors
- Designed/tested to MIL-STD specifications
- Rugged physical design
- Menu-driven programmable interface and configurations
- Selectable synchronization approaches
- Select call mode for private conversations
- Sync Coast feature
- Base model also interoperates with CSD 3324 SE secure full-featured telephone
- Remote control capability for vehicles, ships and aircraft

X-NCrypt®

Cross Network Cryptography

Enabling Secure Commander's Conferencing with TCC's DSP 9000/HSE 6000 Encryption Family



DSP 9000



Airborne



Vehicle



DSP 9000 HS



Ground Troops



HSE 6000



Public Safety, Private Security & Special Operations



Naval



HSE 6010 Telephone Interconnect Kit



Commander/ Presidency



Travel

Future HSE 6020



Mobile Phone Support

For more than 50 years, Technical Communications Corporation has specialized in superior-grade secure communications systems and customized solutions, supporting our CipherONE® best-in-class criteria, to protect highly sensitive voice, data and video transmitted over a wide range of networks. Government entities, military agencies and corporate enterprises in over 115 countries have selected TCC's proven security to protect their communications.



X-NCrypt Cross Network Cryptography is the revolutionary evolution in the application of TCC's DSP 9000 military radio encryption technology, enabling secure voice communications across radio and telephone networks as well as commander's conferencing.