HARRIS

SIERRA™
PROGRAMMABLE
CRYPTOGRAPHIC
MODULE

a multimode voice

and data

encryption module

The NSA-certified Sierra module is an embeddable encryption technology that combines the advantages of the government's high-grade security (Type 1) with the cost efficiency of a reprogrammable, commercially produced, Type 3 and Type 4 encryption module.

Sierra can take on multiple encryption personalities depending on the mission, providing encryption/decryption functionality, digital voice processing (vocoding) and cryptographic key management support functions.

Sierra's software programmability provides a low cost migration path for future upgrades to embedded communications equipment without the logistics and cost burden normally associated with upgrading hardware. The module provides the user the capability to remove the Type 1 functionality, allowing the device to be downgraded from a CCI device to an unclassified device.

Sierra's small size, low power and high data rates make it an ideal choice for battery sensitive applications. It is ideally suited for military radios, APCO Project 25 radios, wireless LANs, remote sensors, guided munitions, UAVs and other equipment requiring a low power, programmable solution.

Sierra is available today as a complete compact module or as discrete parts for custom applications. Sierra has been fully NSA certified and successfully embedded in multiple applications (Motorola XTS™ 5000 Radio, BAE Systems JTRS 2C Radio, Harris SecNet 11 Secure Wireless LAN, key management modules, etc.).

NSA Certified

**Motorola XTS™ 5000
Handheld Radio**

**BAE Systems
JTRS 2C Radio**

**Harris SecNet 11 Secure
Wireless LAN Card**

Key Features

■ **Certified Algorithms**

– Type 1
  – BATON (APCO P25)
  – SAVILLE/PADSTONE (Fascinator)
  – ACCORDION (Key Wrap/Unwrap)
  – FIREFLY
  – Digital Signature Standard (DSS)
  – Enhanced FIREFLY (*Future
    Software Upgrade)

– Type 3
  – DES (OFB, CFB, ECB), Triple DES
  – AES

– Type 4
  – Customer Specific
  – Other algorithms can be
    added later

■ **Voice Processing**

– CVSD
– AMBE
– Dedicated 16-bit DSP processor for
  vocoder functions

■ **Key Management**

– APCO Type 1 OTAR
– APCO Type 3 OTAR
– DS-102 and DS-101 Key Fill
– EKMS Interoperability
– Benign Key/Benign Fill

■ **Data Rates**

– Voice applications
    9.6 kbps APCO mode
    12 kbps/16 kbps Legacy Mode
      (KY-57)
    2.4 kbps ANDVT (KYV-5)
– Data rates up to 11 Mbps

■ Operating Temperature: –40˚ to +85˚C

■ Supply Voltage: 3.3 volts

■ Low Power for battery sensitive
  applications

■ Small Size (46 mm x 23 mm)

■ Field Software Reprogrammable

■ Cryptographic Bypass

■ Non-CCI prior to Type 1 Programming

■ NSA-Certified

Target Applications

■ Military Radios
  (BAE Systems JTRS Step 2C, Harris JTRS
  Step 2Bx)

■ Handheld & Mobile APCO P25 Law
  Enforcement Radios (Motorola
  XTS™ 5000)

■ Secure Wireless Networks (Harris
  SecNet 11)

■ Homeland Security applications

■ Military Sensor Systems

■ Guided Munitions and UAV applications

■ Network Interface Cards and Security
  Products

■ Next Generation Key Management
  Modules

HARRIS

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