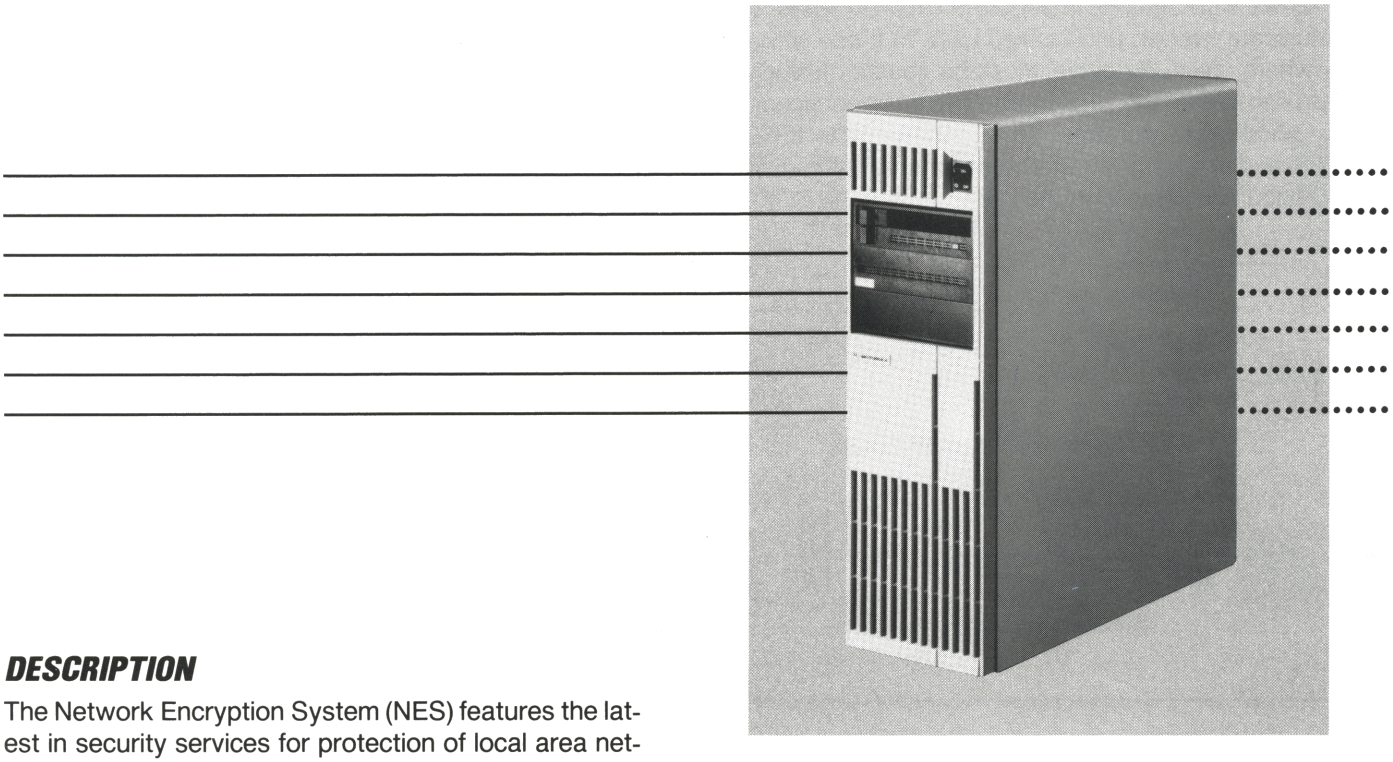
MOTOROLA INC.

NETWORK ENCRYPTION SYSTEM



DESCRIPTION

The Network Encryption System (NES) features the latest in security services for protection of local area networks, wide area networks, and high performance serial links. Designed in accordance with Secure Data Network System (SDNS) standards, the NES is the flexible, interoperable network security solution. The NES is designed for U.S. Government departments or agencies and Government contractors. The NES provides a full complement of security services necessary for network protection. In addition to encryption these services are: access control, integrity, authentication, audit, and electronic key management.

The NES is a stand-alone device inserted between a user host, or workstation, and the network. The NES functions transparently, acting as a network node to the host and as a user device to the network. Transparency is accomplished by means of handling protocol address conventions according to SDNS addressing standards. The NES allows up to 256 simultaneous, protected network connections. Data network compatibility throughout provides optimum performance over interconnected networks. The NES may also be used as a secure gateway, separating red and black networks. This arrangement provides considerable cost benefits since a single NES protects a number of user equipments.

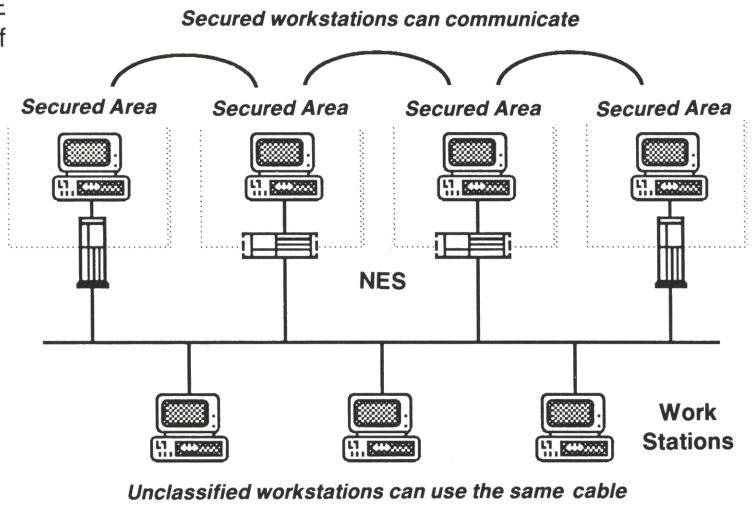
FEATURES

- Designed for protection of data through Top Secret
- Automatic key management capabilities
- Stand-alone or rack-mount models
- Simplified configuration control features
- Supports 256 simultaneous network connections
- Compatible with Local Area Network (LAN) interfaces and protocols
- LAN applications:
  - Ethernet encryption unit
  - Community encryption unit
  - Multi security levels
- Serial encryption unit for point-to-point networks

APPLICATIONS

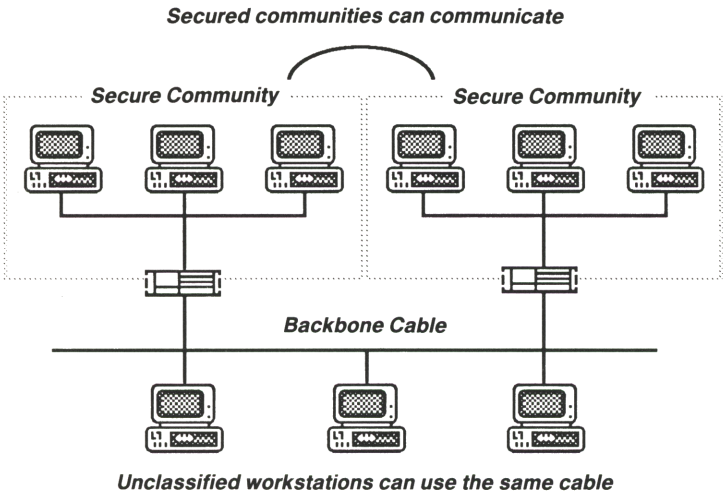
Ethernet Encryption Unit for Local Area Networks

The Ethernet Encryption Unit (EEU) configuration of the NES allows workstations in separate secured areas to communicate over an unclassified LAN. In those situations where the LAN cable must be routed through unclassified areas, the NES makes the interconnection of classified areas possible. Strict adherence to IEEE 802.3 standards may allow the simultaneous use of unclassified equipments on the LAN.



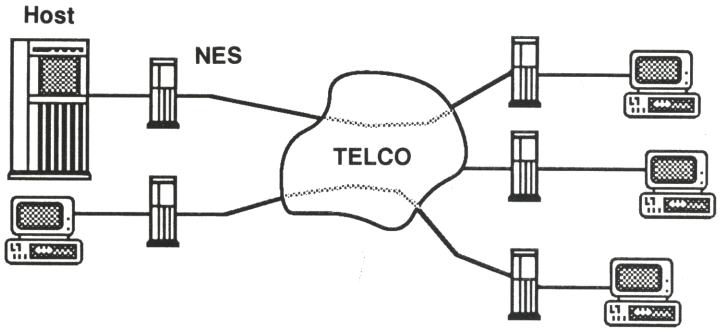
Community Encryption Unit for Local Area Networks

In its Community Encryption Unit (CEU) configuration, the NES operates as a gateway between the classified closed area and the unclassified backbone cable. By creating secure communities, fewer NES units are needed to protect classified networks than if each device was individually protected. Up to 16 workstations or hosts may be placed in each NES secured community.



Serial Encryption Unit for Point-to-Point Networks

The Serial Encryption Unit (SEU) configuration provides security for dial-up and dedicated links. The NES supports asynchronous data rates of 1200 bps to 19.2 kbps and synchronous data rates up to 64 kbps. The electronic key management method allows for efficient use of network resources, and relieves personnel from intricate key handling tasks.



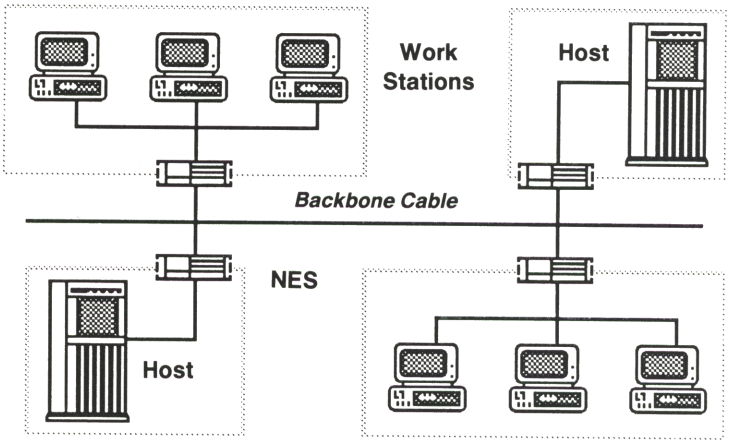
Multiple Pairwise Dial-up Serial Links

Dedicated Point-to-Point Lines

Multilevel Security Support for Local Area Networks

The NES uses the electronic key management system specified by NSA's SDNS program. The authentication and access control features of this system allow the simultaneous coexistance of encrypted packets from different security levels on the backbone cable. SDNS access control mechanisms are used to assure that the different security levels remain separated.

Top Secret Community



Secret Community

SPECIFICATIONS

INTERFACE
IEEE 802.3
IEEE 802.4
EIA RS-449
EIA RS-232
Optional interfaces planned

PROTOCOLS
TCP/IP
ISO
MAP/TOP
DECNET

PERFORMANCE
100 packets/sec, 10 Mbps transfer rate,
750 kbps throughput rate, half duplex.
Supports 256 open crypto channels
50 ms throughput delay - max

PHYSICAL PARAMETERS
Size: 17″H × 7″W × 18″D
Stand-alone or rack mountable
Additional physical sizes planned

INPUT POWER
200 watts max,
100 watts typical
90-125V, 47-63 Hz
Single phase

OPERATING ENVIRONMENT
0 to 50°C

STORAGE ENVIRONMENT
−20 to 60°C

HUMIDITY
90% (noncondensing)

MTBF
20,000 hours

DESIGN FEATURES
VME bus architecture
Commercial VME I/O boards
Extensive use of VLSI throughout

SECURITY FEATURES
Approved Government keying algorithms
Approved Government crypto algorithms
Meets NACSIM 5100A
Tamper proof

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