SKYLINK
Technology, Inc.

Ground Encryption Interface Unit (GEIU)

The GEIU is a custom encryption and decryption interface unit. The GEIU provides a network interface to an encryption unit over two independent channels.

FUNCTIONS

▶ Provides a LAN interface permitting access to an encryption unit by multiple computers over a LAN. Devices may be colocated or remote.

▶ Translates data received over a LAN using TCP/IP communications socket protocol into the clock, data and gate protocol used by an encryption unit over its own RS-422 ports.

▶ Provides a key management function to map spacecraft and key indices to memory locations within the encryption unit. This supports using the same encryption unit for multiple spacecraft and eliminates the need for key management by an external control computer.

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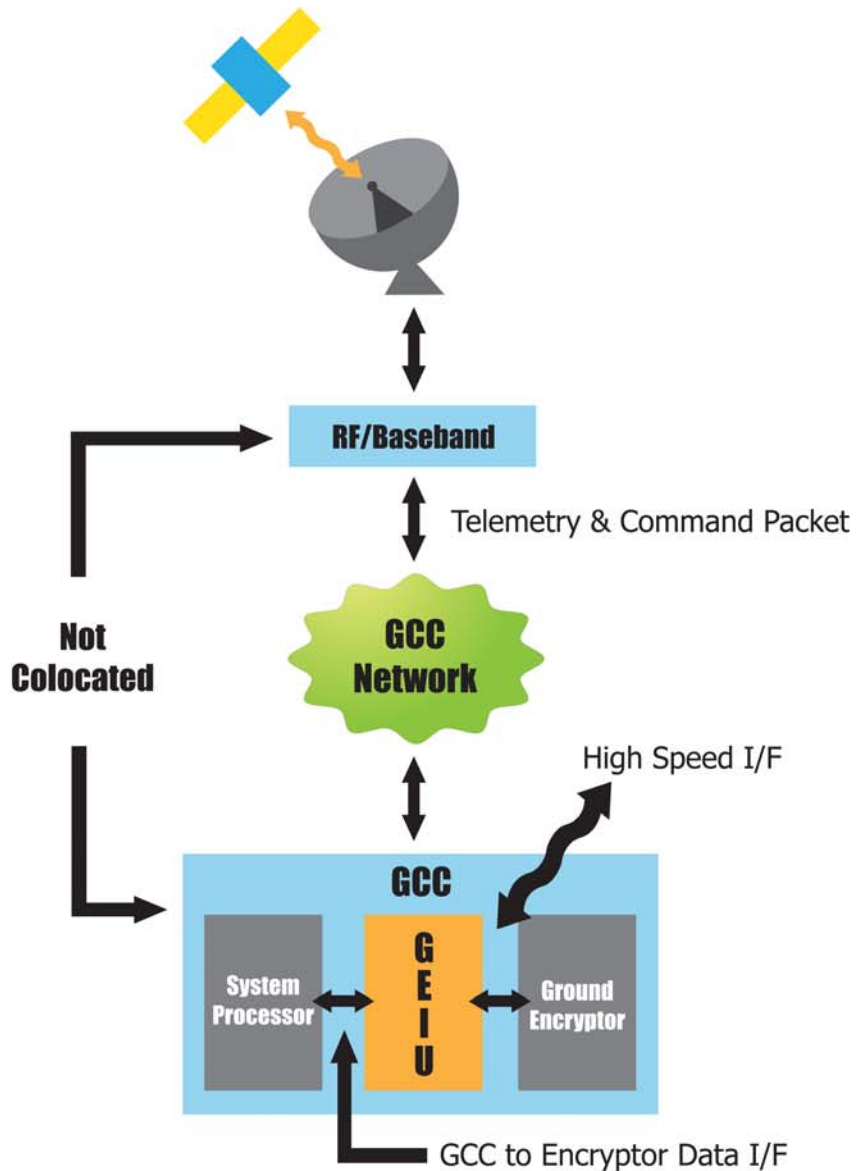
The GEIU is needed in order to:

▶ Simplify encryption of commands and telemetry

▶ Operate on 2 independent channels

▶ Command encryption and telemetry decryption over a LAN using network packets

▶ Be suitable for spacecraft compatibility testing with: command decryption and telemetry encryption.
1 channel operation: 2 MBits/Sec with UDP; 1.3 MBPS over TCP/IP.

▶ Provide key management for multi-spacecraft command support

▶ Maintain multi-algorithm support for MYK, AES ECB, and AES GCM with KIV-7M or similar