

G4-125

SATCOM Intercept System

The Generation 4 Digital Receiver and Digital Signal Processing (DSP) technology contained within the G4-125 System enables operators to:

- Intercept and decode signals transmitted in any of the INMARSAT Standards
- Seamlessly switch between standards instantaneously, transparent to the operator
- Make call selections manually or automatically, using an operator-defined target database
- Monitor and record multiple, simultaneous communications
- Filter the signals processed for display in the interface
- Access a real-time spectrum analysis tool
- Perform checks on the status of the receiver cards in the system

Features and Benefits

- Intercepts voice, fax and data signals over all INMARSAT standards
- Processing for a minimum traffic channel capacity of 80 channels occupies only 5U (8.75") of rack space
- Can operate in simplex or global modes
- Continuous operation ensured by dual, hot redundant power supplies
- Visible spot beams automatically determined
- A powerful, yet intuitive, user interface
- Analog IF input samples are available through type SMA female TEST connectors
- Multiple receiver chassis can be daisy-chained, for additional channel capacity, using the type SMA female LOOP connectors
- Customized configurations available (cost is factored on the additional equipment and capabilities being incorporated)



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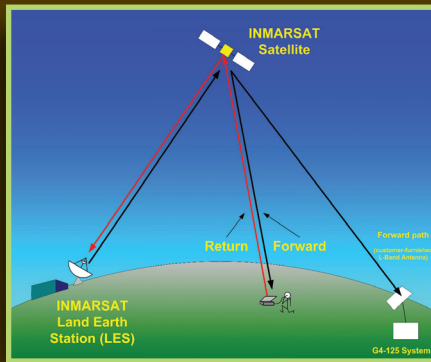
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Applications

The G4-125 System has the ability to operate in either a "simplex" or "global" mode.

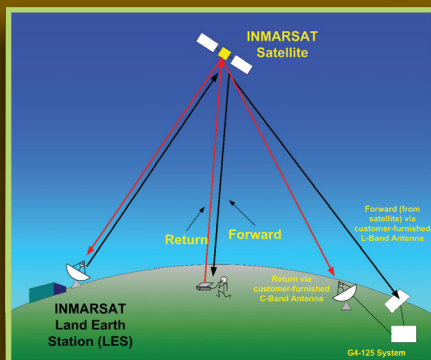
Simplex (L-Band Only) Mode Operation

- A small, flat-panel antenna aimed at the satellite intercepts Forward path signals (signals sent to a terminal from the satellite)
- System uses all available receivers for Forward traffic



Global Mode Operation

- A small, flat-panel antenna aimed at the satellite intercepts Forward path signals
- A large, parabolic, C-Band antenna, also pointed at the satellite, intercepts all the Return path signals (signals sent from a terminal to the satellite) for the Ocean Region



Specifications

G4-125 Receiver Chassis

- 19" (W) x 8.75" (H) Rack-Mount Unit (5U)
- (25) Gen-4 Multi-Channel Digital Receiver/DSP Cards, arranged in two stacks of ten and a stack of five within the chassis
 - Channels: 4 per card minimum, 8 in many modes
 - Channel Selection: 8 Independent DOTs
 - Interfaces: 100 base T Ethernet and 115,200 baud RS-232 serial port
 - Speed: 150 MHz (900 MFLOPS)
- IF Signal Filters
- IF Amplifiers
- Splitters for "TEST" and "LOOP" outputs
- High Speed, 3-Channel Analog-to-Digital Converter Card for each stack of receivers
- Ethernet Distribution Hardware

Controller

- Rack-Mount Computer running Windows 2000 or XP
- Keyboard Video Mouse (KVM) unit

(2) DC Power Supplies

- Auto-sensing AC to DC Power Supply
- DC to DC Regulators

Three operational modes

- All Pass – No automatic selection or recording; logs are created
- Tasked Hit – automatic selection and recording based on the priority 1 database; logs are created
- Both – automatic selection and recording based on the priority 1, 2, and 3 databases; logs are created

Note: Operation in the global mode requires RF feeds from a dual circularly polarized C-Band Antenna that meets these minimum requirements:

- G/T: 30 dBK-1 – degraded operation may be possible with a lower G/T, but is not recommended
- Down Converter Bandwidth: 34 MHz min.
- Down Conversion LO: 3537 MHz \pm 5 MHz
- LO Stability: $\pm 1 \times 10^{-8}$
- AFC Pilot signal level: -20 to -40 dBm

Argon ST can specify, site, install, and test a suitable C-Band Dish, if desired.

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