



Satellite interferences are constantly growing and impact on satellite communications. In case of interferer, it is crucial to know *what* the signal is and also *where* it comes from. To be successful in satellite communications, IN-SNEC assists you in solving these complex tasks by providing all-inclusive solutions for searching, detecting, characterizing and geolocating satellite communication signals from L band to Ku band, as well as non-communication signals threatening the satellite payload.

CGL

Compact GeoLocation



Support

- ◆ Technical assistance
- ◆ Operators training in signal analysis
- ◆ Software warranty
- ◆ On site installation

More ...

For more information, refer to the IN-SNEC data sheets :

- ◆ FTP.000135 - VME-IFoIP-WB - VME IF over IP Wideband Acquisition board
- ◆ FTP.000136 - VME-RF-x2IF-y - VME Converter board
- ◆ FTP.000130 - VME-IF-SM - VME IF switch matrix
- ◆ FTP.000134 - RM-1U-B - Distribution rack Baseband
- ◆ FTP.000154 - IFoIP-Hypermon - Signal Analysis solution

Ordering information

■ Model reference CGL



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Main Functions

- Transmitter geolocation
- Inverse geolocation - Ephemeris estimation
- Advanced geolocation (carrier under carrier)

Main Benefits

- Very fast results within minutes
- Non intrusive geolocation within minutes
- Very compact and simple solution
- Very high accuracy; High reliability
- Easily extensible and adaptative software
- Very easy and intuitive GUI
- High maintainability
- Cost-effective
- Common hardware with CSM

Main Features

- All bands, all type of interferences and location management
- Hyperbolic geolocation TDOA (Time Difference Of Arrival) & FDOA (Frequency Difference Of Arrival) measurement
- Integrated customizable databases (ephemeris and coverage of most satellites, mirror satellite selection, carrier, reference, stations...)
- Open development environment
- Data acquisition without size limitations
- Data recording and replay
- Elimination of traffic carriers on the secondary satellite
- Map included - Connection with Google Earth compliant

CGL

Compact GeoLocation

HARDWARE FEATURES

Configuration

Basic features

- ◆ 1 chassis 19" x 4U short
- ◆ VME boards upon versions; *examples* :
 - ▶ Full RF version: (4 RF inputs)
 - 1 VME over IP Wideband acquisition board - VME-IFoIP-WB
 - + 4 VME L-band Down Converter boards - VME-RF-x2IF-y

Functions

VME Down Converter board - VME-RF-x2IF-y (for RF versions)

- ▶ Translation of VHF/UHF/L input frequency in an 140 (or 70 MHz) intermediate frequency

VME IF over IP Wideband Acquisition board - VME-IFoIP-WB

- ▶ 4 analog to digital conversion
- ▶ Real time channelization
- ▶ Processing in Powerquicc III
- ▶ Wideband acquisition
- ▶ Control and broadcasting
- ▶ Pre-processing in FPGA

Physical specifications

Operating temperature	+10°C to +40 °C
Storage temperature	-40°C to +70 °C
Voltage	100-240V, 50-60Hz

IF input

Input Frequency	140 MHz (or 70 MHz)
Sampling Frequency	adjustable 75-100 MHz
Max input level	+ 20 dBm
Dynamic range	100 dB nominal
Instantaneous bandwidth	144 MHz (4x36 MHz)
Bandwidth resolution in narrowband	415 Hz up to 2.5MHz
32 real time DDC	up to 2.5 Mbps each

Technical specifications

RF input

Frequency range	L-band	950-1750 MHz
or/and	Extended L-band	950-2150 MHz
	VHF band	230-470 MHz
	UHF band	470-950 MHz

Interfaces

RF inputs	SMA female
IF inputs	SMA female
Control	Ethernet
Data streams	4 x (1 Giga bit Ethernet)

SOFTWARE FEATURES

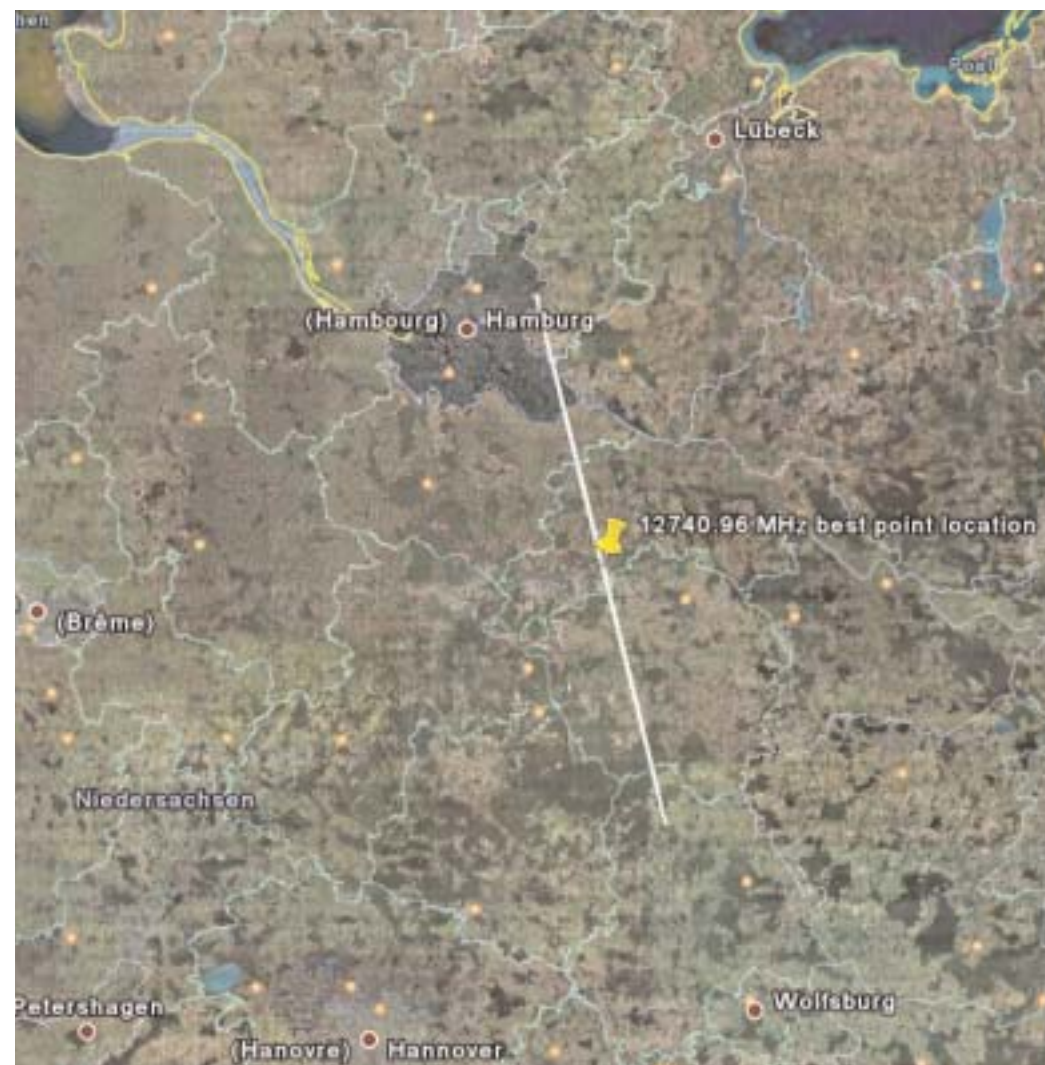
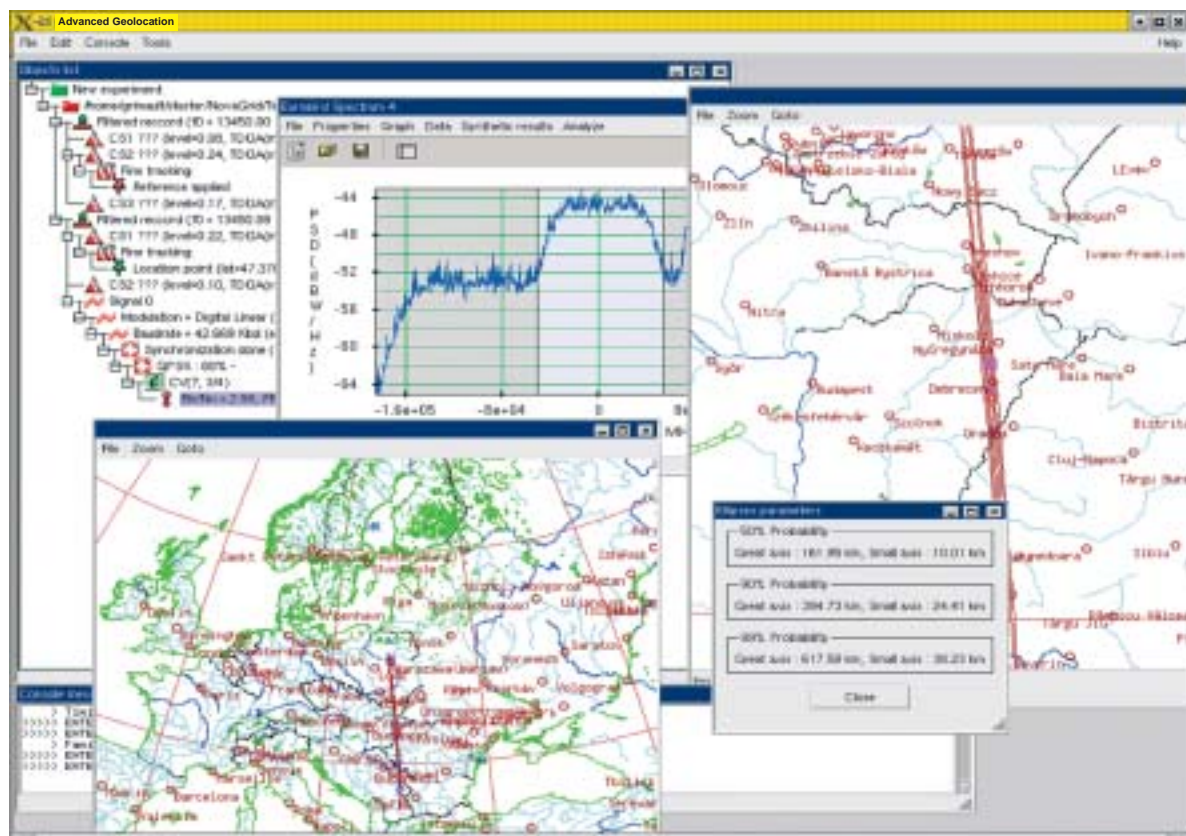
GUI

- Context sensitive pop-up menus
- Multi windows : Spectrum analyzer
Map, ...
- One click from start to results
run, process, analysis, display ...

Configuration

Software licenses :

- ▶ GeoLocation
- ▶ Advanced GeoLocation
(Signal Analysis, carrier under carrier)



Technical specifications

Features

Databases	Satellite database Station database Authorized carrier database (reference) Unauthorized carrier database
Data display	Graphic User Interface Map integrated Spectrum viewer Google Earth compatibility
Multitasking	

Interference Detection

- Blind signal analysis
- Automatic carrier detection
- Carrier under carrier detection
- Adaptative signal cancellation

Geolocation reporting

Data reporting	report in RTF format
Data management	automatic set-up, recording into databases