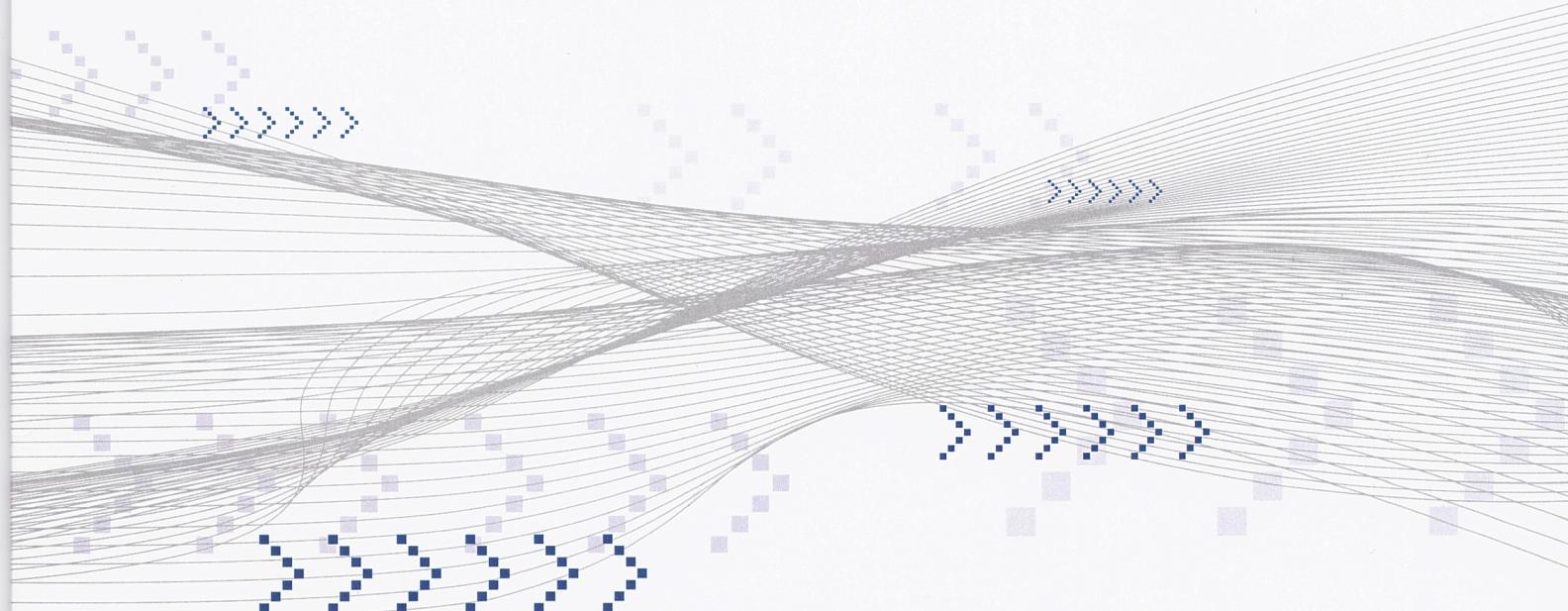


Forensic
Telecommunications
Services



FTS Seeker IMSI Grabber & Locator





FTS Seeker

IMSI Grabber & Locator

Introduction:

People involved in unlawful activities frequently use mobile phones. The identities of these phones are often unknown, for example a Pay As You Go phone purchased for cash. Not being able to readily identify users and the phone identity through normal methods poses significant problems for law enforcement agencies.

The FTS Seeker Handset Identifier/Locator provides an easily deployed, cost effective, system for establishing the identity of mobile phones in a specific area. The unit can recover both the handset identity (IMEI) and the SIM card identity (IMSI). These can subsequently be used to check Billing Records from the Network Operator, as well as being used for target location and to detect SIM card swapping.

Tools of this type are, of necessity, deployed in potentially hostile areas, very close to a target. Covert operation is therefore of vital importance both to avoid detection by targets and to protect the safety of the operator. This system has been specifically designed with these requirements in mind, so that it may be easily operated and carried in a variety of concealments, for example a shoulder bag or rucksack. It also uses a rugged form of construction to withstand the rough treatment that is inevitable during operations of this type. The device can be deployed both inside and outside of a vehicle.

Designed and optimised

for use by Law Enforcement Agencies:

The FTS Seeker has been designed from the outset to be optimised solely for IMSI Grabbing and IMSI location tasks.

The FTS Seeker does not provide any facility for intercepting and recording voice transmissions over the network. Nor does the system allow specific fire-walling or restriction of network services to handset devices within its range. This design ensures that when the system is in operational use these types of activity cannot be used inadvertently or accidentally by the operative while conducting IMSI searching / location finding.

Not least, Senior Officers can authorise the use of IMSI grabbing using the FTS Seeker safe in the knowledge that doing so cannot lead to a situation where an unintentional unauthorised intercept may compromise the result of an intended operation. Being designed for use under the strict rules applied by UK and similar jurisdictions makes the unit safe for use in many other countries. We would be happy to provide advice about specific countries.

The final important benefit of this design is that it allows a much more compact and cost effective IMSI grabber unit than has previously been available.

Features:

- Ultra compact and easily portable system.
- Rugged construction in sealed casing.
- Backpack / Shoulder Bag or brief case deployment.
- Wireless user interface via PDA, Smart-Phone, Laptop or Netbook.
- Operationally simple to use by non technical personnel.
- Cost effective alternative to vehicle based systems.
- Dual base stations for high speed operation – scan two networks at once.
- Embedded receiver for fast network survey.
- Automatic scan of multiple Networks (two at a time).
- Powerful built in database with removable media store.
- Totally silent operation using all solid state electronics.
- Built in software for IMSI catching identifying which network or country IMSI is from.
- Built in software for IMEI identity of handset make and model.
- Self contained, operates from internal batteries.
- Simple download of results to a laptop for detailed analysis.
- GPS facility – coordinates stored of where unit is deployed.
- 'White list' function, to ignore 'friendly' IMSI/IMEI's.

User benefits:

- Fast, efficient, cost effective IMSI grabbing.
- Directional antennas focus target area.
- User "Mark" facility for logging of visual information.
- Simple target identity analysis using database.
- Easily concealed for covert operation.
- Supports target location.
- Adjustable grabbing times.

High Speed Acquisition:

The FTS Seeker has a dedicated configuration which allows for two base stations to be configured within the same package, tuned to different GSM bands. This configuration allows simultaneous acquisition of data from two networks. The automatic search of each network also reduces the overall search time. The unit typically interrogates ~300 handsets/minute. A full scan of 4 different networks could take approximately 6 minutes.

Dual Function System Operation:

Grabbing

The FTS Seeker is deployed in the vicinity of the target. The User initiates an automatic network scan so that the system can determine the operating parameters of all the cellular networks in the area.

Once this has been completed the user can start IMSI Grabber operation. This is completely automatic. The system acts as a 'phantom' base station on the cellular network. Mobile phones that are switched on in the vicinity will register to the phantom cell and the system will capture their IMSI and IMEI. These details are logged in the system database. The mobiles are then returned to the real network within a few seconds causing minimal disruption to service. The system contains two base stations so two network bands can be monitored at the same time. The system cycles through each network in turn until all have been covered. The user may initiate the IMSI grabbing sequence at periodic intervals to build up a picture of phone users over a period of time or at different locations.

In addition to logging the IMSI of captured phones, the system database also records IMEI, network, a GPS reading and a timestamp from the system clock. There is also a user 'mark' facility, which allows the operator to record a time-stamped tag in the database to log a specific action by the target (e.g. switching a phone on or off).

Locating

The same system can switch function to locate a phone. Using a known IMSI, input this into the system, then search your area to grab that IMSI. Once the IMSI is grabbed you then have it on your own quiet channel, registering to our own phantom cell. Then, using your choice of overt or covert radio receiver / spectrum analyser, you can measure the signal strength of the phone (IMSI) and locate where it is.

This can identify where the phone is within houses, rooms and other specific locations. Once operational the user's handset screen displays a full strength signal and cell broadcast as normal, so the user is unaware it is on the Seeker's channel. The user would be unable to make a call throughout the process.

Operational Examples:

Case scenarios for the use of the FTS Seeker IMSI Grabber/Locator

Identifying unknown mobile phone number of suspects

You know the identity of a suspect but need to identify the mobile phone numbers he's using. Whilst carrying out mobile surveillance of your suspect, deploy the FTS Seeker. The FTS Seeker can be used in a surveillance vehicle or carried in a bag by a surveillance officer on foot. During the surveillance of a suspect the IMSI grabber is set to run from different locations. It will obtain IMEI/IMSI numbers from within the target area of each location. Any common IMEI/IMSI numbers could be linked to the suspect.

Finding missing persons / kidnap victims / locating suspects

A Law Enforcement Agency already knows the IMEI/IMSI number it's trying to locate and have obtained the last known cell sector it used (from the appropriate Network Provider). The FTS Seeker is deployed in a vehicle and then on foot in the cell sector area. The IMEI/IMSI number is identified and the unit 'locks' it to an unused radio channel. The mobile can be located by using either the inbuilt antenna or ancillary optional direction-finding systems.

Intelligence Gathering at High Security Events, e.g. Political Speeches, VIP visits

A single or multiple FTS Seekers can be deployed at fixed points or roaming through key areas of an event. IMEI/IMSI numbers grabbed during the event can be used by Law Enforcement Agencies for intelligence purposes. Early identification of suspects can begin straight away (possible criminal / terrorist attack at the event), or through analysis after the event. If any known IMEI/IMSI numbers are identified during grabs at the event, the system can be switched to locate mode and the suspect mobile/s located. As the grabber/locator works on both IMEI/IMSI numbers, if the same handset but a different IMSI is used, the device will still identify it.

Search and Arrest Operations

Prior to entering high risk areas for house searches, the FTS Seeker can be deployed in grabbing mode to confirm the presence and location of the suspect phones, thereby confirming the presence of a suspect or suspects and ensuring the search teams make the appropriate risk assessments.

Border Protection

Although data acquisition takes between 45 to 60 seconds (per network), providing there is a sufficient choke point within the border crossing area to slow down all persons entering, deploy the FTS Seeker in its portable or fixed grabbing mode and record all IMEI/IMSI's entering through the border for later intelligence analysis.

N.B. The phones to be grabbed/located must be turned on

Prisons/Secure units

Detection, identification and locating of unauthorised mobile phones.

Technical Information:

Frequency bands:

Supplied to cover two GSM bands simultaneously. The standard configuration is 900 and 1800 MHz. Set-ups with alternative frequencies are available. Available Frequencies: 850, 900, 1800 & 1900 MHz

Range:

Maximum range: up to 300m

The detection range may be preset by the user.

Local topography and urban density will affect maximum range. Vehicle options can significantly increase range.

Transmitter Output:

5mW to 1W depending on acquisition range set.

Complies with EU directive (2004.40/EC) on operator EMC safe exposure level.

Target Acquisition Rate:

> 300 handsets/minute

Typical scan time for 4 Networks: 6 minutes

Antennas:

Internal antennas: Directional beam width approx 60°

Whip antennas: Omni-directional - 360°

(May be configured by the user prior to use)

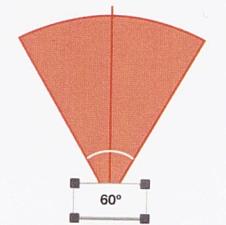
Operational Environment:

Temperature: 0 to 30° C (normal operating cycle)
30 to 35° C (reduced operating cycle)

Relative Humidity: 0 to 90% (non condensing)

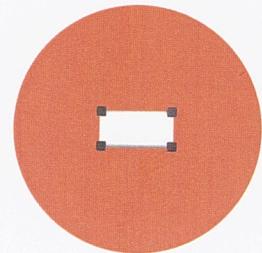
Configuration:

The system has been specifically designed for effective and convenient use in the field. The construction is rugged and compact and it is intended that it can be easily concealed inside a bag such as a shoulder bag, rucksack or briefcase.



Directional Antennas

The unit includes directional antennas concealed behind the front covers. These provide the user greater range and control over the surveillance area.



Omni-Directional Antennas

Optional small whip antennas are provided to allow circular coverage around the unit when there is little or no information about the possible location of the target within the search area.

Deliverables Included in Basic System:

GSM Handset Identifier/ Locator Unit, with 2 Base station modules (normally 900 and 1800MHz)
PC Software
Smart phone for Remote Control
Panel antenna 60° beam angle
Omni-directional Whip antennas
Battery and Mains charger Unit
1 day training for up to 4 persons (UK)

Optional Extras:

Units for fixed deployment, e.g. at an airport or ferry terminal
Vehicle Interface Unit or Fixed Mains Power Unit
Set of 1, 2 or 4 small handheld locator units
(only work with main unit)
UMTS (3G) induced system reallocation tools to divert 3G users onto GSM
Additional advanced training on using a Spectrum Analyser
Additional batteries
Handheld Spectrum Analyser
Licence / support must also be purchased

Power:

Internal battery: Operating time:

~90 minutes under typical operational use

~60 minutes continuous use (fully charged battery)

Vehicle supply: 12V (7.0A) via standard auxiliary power adaptor

Mains power: 100 to 250V (50/60Hz) battery charger unit

Storage:

-10 to 40° C

0 to 90% Humidity (non condensing)

Noise:

Inaudible operation: <15db (SPL)

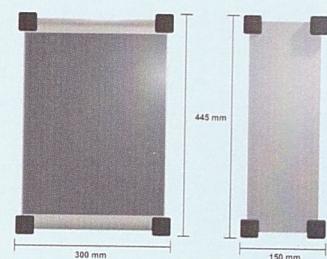
Physical:

Dimensions: Length: 445mm

Width: 300mm

Height: 150mm

Weight: <10.5kg approx (including battery)





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Note:

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