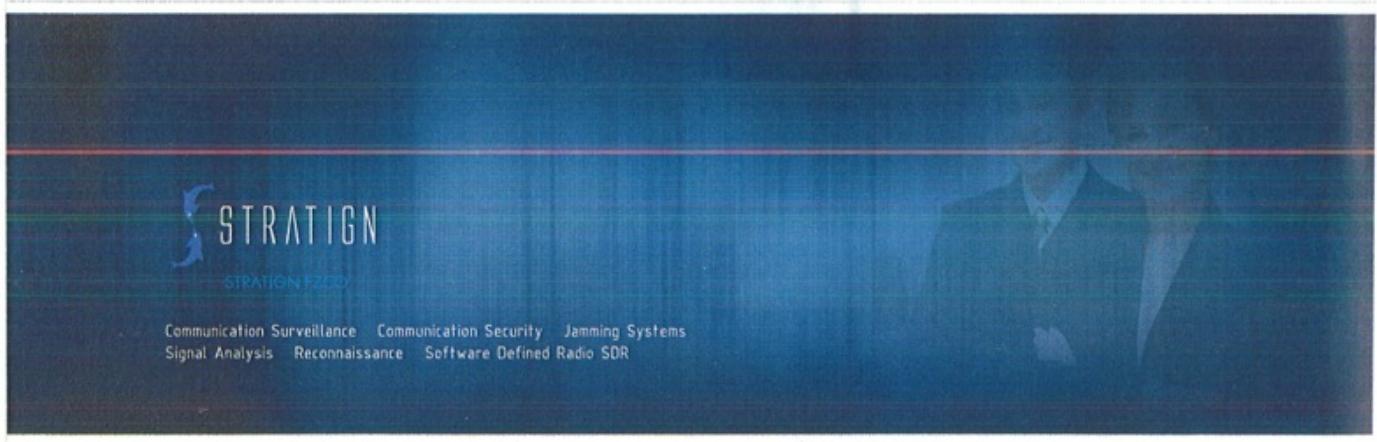




STRATIGN

Communication Surveillance Communication Security Jamming Systems
Signal Analysis Reconnaissance Software Defined Radio SDR

Strategic Defence Technologies



"We are continually faced by great opportunities brilliantly disguised as insoluble problems."

- Lee Iacocca



Strategic Defence Technologies

ABOUT US

Stratign FZCO, is the global leader in Communication Interception, Signal Processing systems, Electronic Warfare and Network Security Systems. Stratign products are tailored to meet or exceed Intelligence and military requirements in order to ensure reliable, effective and robust Intelligence Collections in the most rugged and insecure environments.

Stratign specializes in the design, development and manufacture of integrated Intelligence, Surveillance and Reconnaissance (ISR), and countermeasure systems and suites for operational support in the international market.

The company has developed a worldwide reputation for supplying vertically integrated advanced ISR / EW systems from its full breadth ISR / EW discipline capability and technology base.

Stratign has a worldwide reputation for supplying highly capable integrated Intelligence collection and processing systems, which often exceed user requirements.

Stratign also produces bespoke Communication and network security systems, which utilize our proprietary military grade security structure, in order to provide optimum and most secure connectivity for world wide military and diplomatic information transfer and usage.

Our imaging division provides our users with multiple systems in order to achieve Aerial Photography and High Resolution Satellite imaging. We provide Multiple UAV platforms in various Form Factors be it Fixed wing or Rotary wing UAV's.

Our On demand Processed Satellite images can also be used by various governments who would like to acquire most current High Resolution Satellite images to support Decisions in regard to national and border security.

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"the secret of war lies in the communications"
- Napoleon Bonaparte



Strategic Defence Technologies

DIRECTOR'S VISION

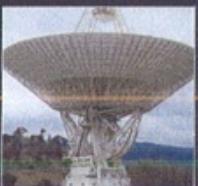
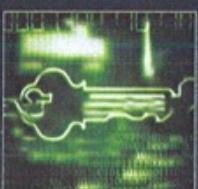
Our vision is to be the most trusted provider of systems and technologies that ensure the security and freedom of our nation and its allies. As the technology leader, we will define the future.

Our products and services will be "best in class". We will deliver excellence, strive for continuous improvement and respond vigorously to change. Each of us is responsible for the quality of whatever we do.

Simply put, to 'check-mate' all competitors with futuristic technology, systems, products and service and to be known as undisputed global leader in our field.

We are each personally accountable for the highest standards of behavior, including honesty and fairness in all aspects of our work. We fulfill our commitments as responsible citizens and employees.

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"Communication works for those who work at it."

Communication Security, Communication Surveillance, Communication Monitoring, Integrated Strategic Electronics, Strategic Defense Technologies, Signal Analysis, GSM, CDMA, Cellular Interception Technology, Thuraya Monitoring System, Encryption Technologies, Microwave Communication Logging, Jamming Systems, Mobile Radio Jammer, Vsat Monitoring, Inmarsat Monitoring, surveillance integrated system



Strategic Defence Technologies

Stratign provides intelligence, surveillance, reconnaissance, analysis and communication jamming systems.

Under the broad head of communication intelligence systems, Stratign provides system solutions for national security, law enforcing forces and the military. The system engineers and logistic group is executing customer-driven mission of Stratign's networking centric operations under which software driven architecture melts space, air and land based platforms into a coherent system.

Stratign is the leader in integrated information solutions for Military and Government Communications.

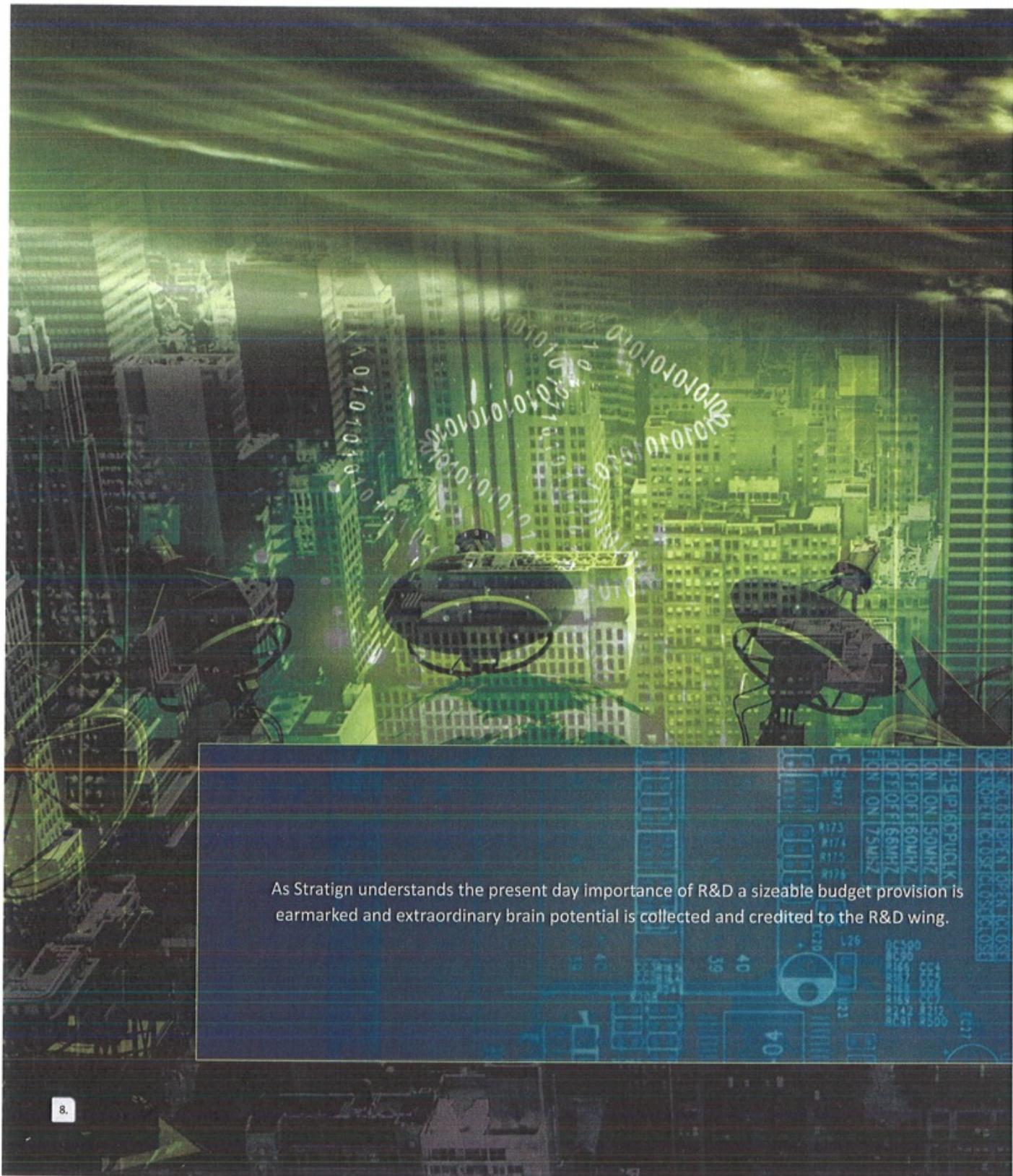
Stratign system engineers and logistic group provides life cycle support for all our systems to all our customers which includes program management, customer specific system production, modification and upgrades, system maintenance, integrated logistics and full life support and systems engineering. We are focused on maximizing fielded systems by offering complete range of support products and services.

Stratign offers a unique capability in the market, being able to integrate multivendor procured COTS/Mil-STD elements of defense communications sustainment within a single organization. These capabilities include maintenance, modifications and upgrades, supply-chain services, engineering and logistics services, and training systems and services.

Working in partnership with its customers and focusing on network-centric, capability-driven solutions, Stratign is transforming business and military operations to address a rapidly changing world.

Added to all the above Stratign provide complete technical support to all its customers as per their precise need. And the third country engineering support by Stratign is highly appreciated by all their customers all over the world.

CORE COMPETENCIES





Strategic Defence Technologies

Innovations, improvements, refinement and designing to suit the customer need are ever ongoing process in Stratign. Research and Development are important factors in the growth curve of the company that puts our systems, products and service at a distinguished place in the market.

INNOVATIONS

The guide lines for R&D comes from the specific needs of our customers and through our long term planning based on the comprehensive understanding of our business, its markets and the courses future would take. We know that conducting continuous R&D is the only means to distinct our products and service from our competitors and be the leader.



10.



State Of The Art Systems For Collection, Analysis,
Decoding, Archiving , And Processing Of Signals Received
From Terrestrial And Satellite Media.



Strategic Defence Technologies

Technical Support

Developing a new system means increased magnitude of data collection, scientifically processing it and using it effectively in development of the system.

Developing new systems involve more complexities of system development process, validation of them along with operational modes and maintaining them over its lifetime and this more importantly have to be done wearing a straight jacket of cost consciousness and market competition. In the view of customers the product it should be cost effective in terms of its effectiveness, life span and maintenance.

Stratign is dedicated to allowing the organisations we work with to concentrate on their core business and users' needs, through the specialised technical aspects for the control and operation of their systems. We are able to deliver this support worldwide, in a variety of business models.

Sratign has a strong technical and experienced manpower in the field of operations. The group has extensive hands on expertise on these systems and can provide fast and accurate onsite maintenance, repair, integration, customization services to all our customers.

In case you are looking for immediate solutions, please contact our technical support group at support@stratign.com with your query as they offer online 24X7 supports to all our defense and government customers with online answers to your technical questions in relation to any system supplied by Stratign.

You can also request a Software / Patch / Product technical details or Catalogues download by sending your requirement after filling up the online form.

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11.

PRODUCTS

COMMUNICATION SURVEILLANCE

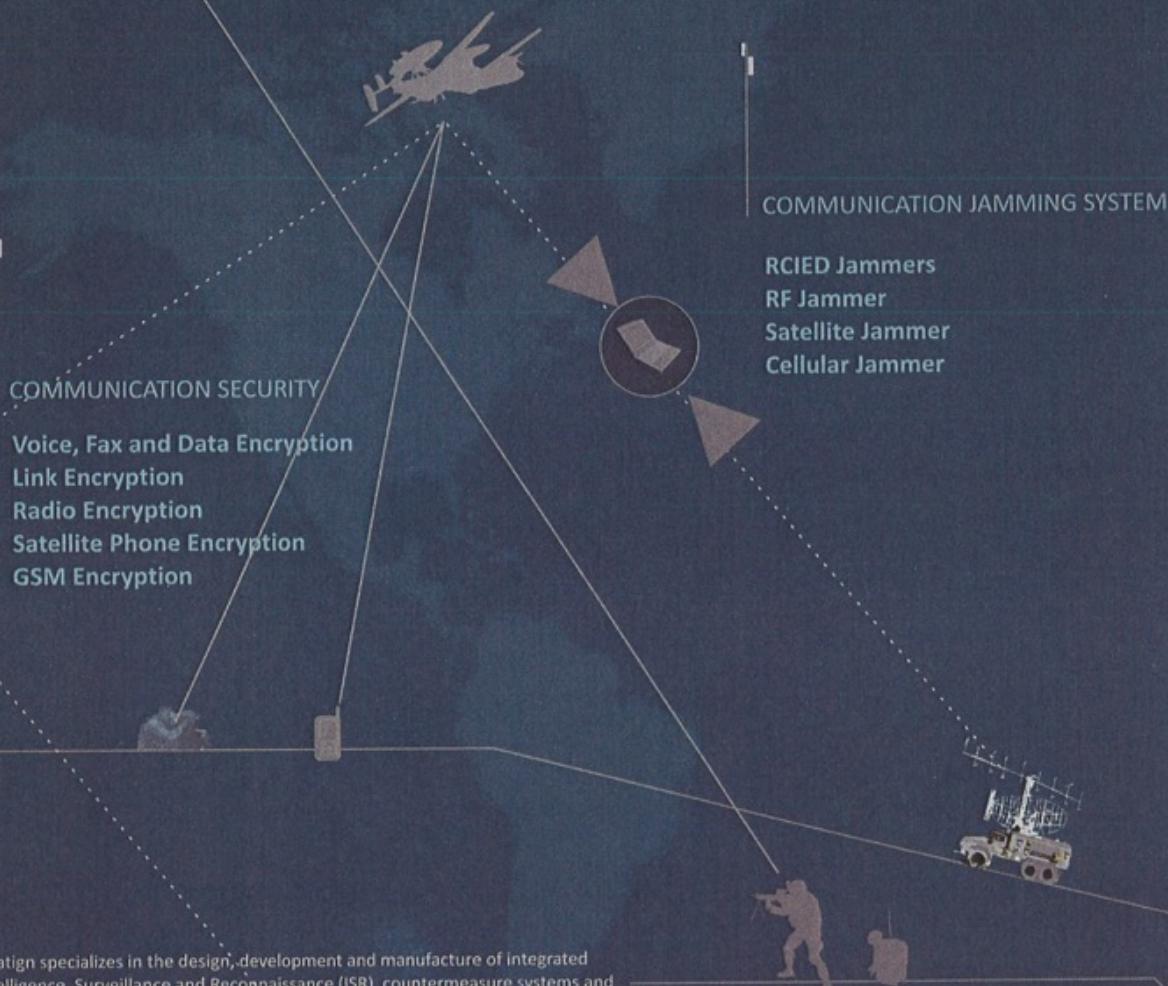
- Cellular Monitoring
- Satellite Monitoring
- Radio Monitoring
- Lawful Interception

SIGNAL ANALYSIS

- Signal Reception and Acquisition
- Direction Finding
- Signal Analysis and Processing

Stratign FZCO, is the global leader in Communication Interception, Signal Processing systems, Electronic Warfare and Network Security Systems. Stratign products are tailored to meet or exceed Intelligence and military requirements in order to ensure reliable, effective and robust Intelligence Collections in the most rugged and insecure environments.

Strategic Defence Technologies



Stratign specializes in the design, development and manufacture of integrated Intelligence, Surveillance and Reconnaissance (ISR), countermeasure systems and suites for operational support in the international market.

COMMUNICATION SURVEILLANCE

CELLULAR

Semi Active GSM Monitoring System
Passive GSM Monitoring System
A5.1 Decryption System
CDMA Monitoring System
SPY Phone

SATELLITE

Satellite Monitoring System
Fixed Thuraya Monitoring System
Portable Thuraya Monitoring System
Tactical ISAT Pro Monitoring System
Iridium Monitoring System
VSAT Communication Interception System





Strategic Defence Technologies

RADIO

Microwave Communication Collection and Processing System
HF Monitoring, Dehopping and Direction Finding System
HF/VHF/UHF Monitoring System
Wi-Fi Monitoring System

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System
IP Monitoring System
Voice & Fax Logger System

CELLULAR

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COMMUNICATION SURVEILLANCE

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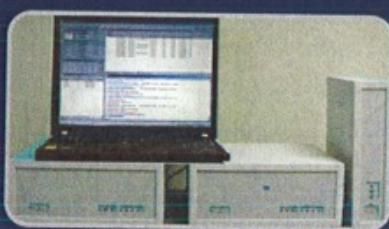
Semi Active GSM Monitoring System

The Semi Active GSM Interception System has been designed to intercept Voice, SMS along with CRI from any GSM service providers in the world operating on GSM 900, 1800, 850, 1900MHz frequency band

System uses state of art technology for on-line deciphering of A5.1 and A5.2 cipher algorithms. The system is completely transparent to the suspect as well as the service provider. The system features advanced capabilities like extracting the suspect's actual mobile number, ignoring certain subscribers from being intercepted, selective jamming, spoofing of SMS and voice calls in built automatic paging etc. The system can also be integrated with a direction finder to locate the suspect. The complete system can be integrated in a vehicle for transportable operation.

System is integrated with latest state of art A5.1 hardware decryptor which can calculate the ciphering key of the latest mobile phones such Blackberry, iPhone, Nokia etc.

Parameter	Value
Frequency Band	GSM 900, GSM 1800, GSM850 and GSM1900MHz
Supported Deciphering algorithms.	A5.1 and A5.2
Simultaneous Interception networks	Upto 3 service provider
No. Of Channel	Upto 12 duplex channels
Intercepted Traffic type	Voice & SMS
Selection of target	PLMN, IMSI or Suspects Mobile Number
Area of coverage	Upto 2-5 Km
Power Supply	230 VAC,50Hz
Available Option	High Gain Amplifier , High Gain Directional Antenna, Vehicle Integration Kit



CELLULAR

Passive GSM Monitoring System

Strategic Defence Technologies

The multi-channel Passive GSM Monitoring system is designed to intercept Voice and SMS communications and protocol information from a GSM 850/900/1800/1900 network. To prevent detection of the system's operation and avoid interference to the operation of cellular network the system works as a passive equipment intercepting GSM communications directly from the air (Um interface) making it undetectable by the cellular operator as well as the suspect. The system is equipped with a hardware decryptor module which is capable of handling and decrypting the A5.1, A5.2, A5.0 encryption protocols in real-time. The system is available in configurations of 2, 4, 8, 16, 32 Duplex channels.

Parameter	Value
Frequency Bands Supported	GSM 900, 1800, 850, 1900MHz
Deciphering algorithms.	A5.1, A5.2, A5.0
No. Of Channel	Up to 32 duplex channels
Intercepted Traffic type	Voice & SMS
Selection of the Targets	IMEI, IMSI, TMSI, Target distance from the base station, Target's dialed & Received Number (PLMN)
Area of coverage	Up to 30Km
Available Option	High Gain Directional Antenna, Vehicle Integration Kit
Power Supply	230 VAC, 50Hz or 12VDC Direct from Car Battery



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17.

CELLULAR

Semi Active GSM Monitoring System
Passive GSM Monitoring System
A5.1 Decryption System
CDMA Monitoring System
SPY Phone

CELLULAR

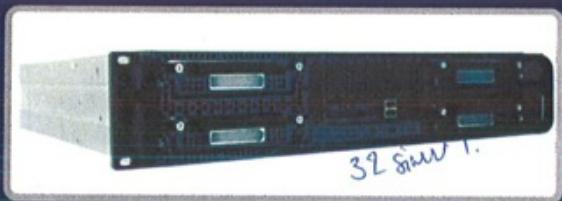
A5.1 Decryption System

The A5.1 decryptor is used to decrypt GSM communications which are encrypted using the GSM A5.1 encryption standard. This equipment is used in conjunction with the Semi-Active or the Passive GSM monitoring system. The system is capable of real-time decryption of A5.1 encrypted GSM communications.

The system is built around a single circuit board based on ASIC components and housed inside ruggedized case along with a cooling system.

GSM Interceptor and A5.1 Decipher can be connected either directly by USB cable or wirelessly using any available communication means (GPRS, UMTS, satellite link, etc.). A5.1 decipher can serve more than one GSM Interception Systems. It is a typical server-client application. Usually A5.1 decipher is located in a head quarter connected to Internet with static IP address while GSM Interception system can be located virtually in any place of the world.

Parameter	Value
Deciphering Abilities	Simultaneously up to 32 cracks
A5/1 Key breaking time	100/480ms
Modes of operation	Local operation Remote operation Centralized configuration
Power Consumption	40W
Power Supply	90/265 V AC + 10% or 12VDC



CELLULAR

CDMA Monitoring System

Strategic Defence Technologies

The STN-5020C is a Passive multi-channel CDMA Monitoring system designed and developed to monitor the CDMA mobile phones. The system monitors the communication from the air interface between the Base Station and the mobile handset of the suspect. Each receiver is independently tunable to any logical channel of the CDMA Network within the coverage range of the system. System support CDMA (IS-95A, IS-95B, and CDMA 2000-1 x) cellular network.

Parameter	Value
Frequency Band	CDMA 450MHz , 850MHz
Cellular network	CDMA (IS-95A, IS-95B, and CDMA 2000-1 x)
Intercepted Traffic type	Voice & SMS
No. Of Channel	Upto 16 duplex channels
Intercepted Traffic type	Voice & SMS
Selection of the Targets	ESN, Actual Mobile Number of the target
Area of coverage	Upto 5Km
Available Option	High Gain Directional Antenna, Vehicle Integration Kit
Power Supply	220V 50Hz AC



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CELLULAR

Semi Active GSM Monitoring System
Passive GSM Monitoring System
AS.1 Decryption System
CDMA Monitoring System
SPY Phone

CELLULAR

SPY PHONE

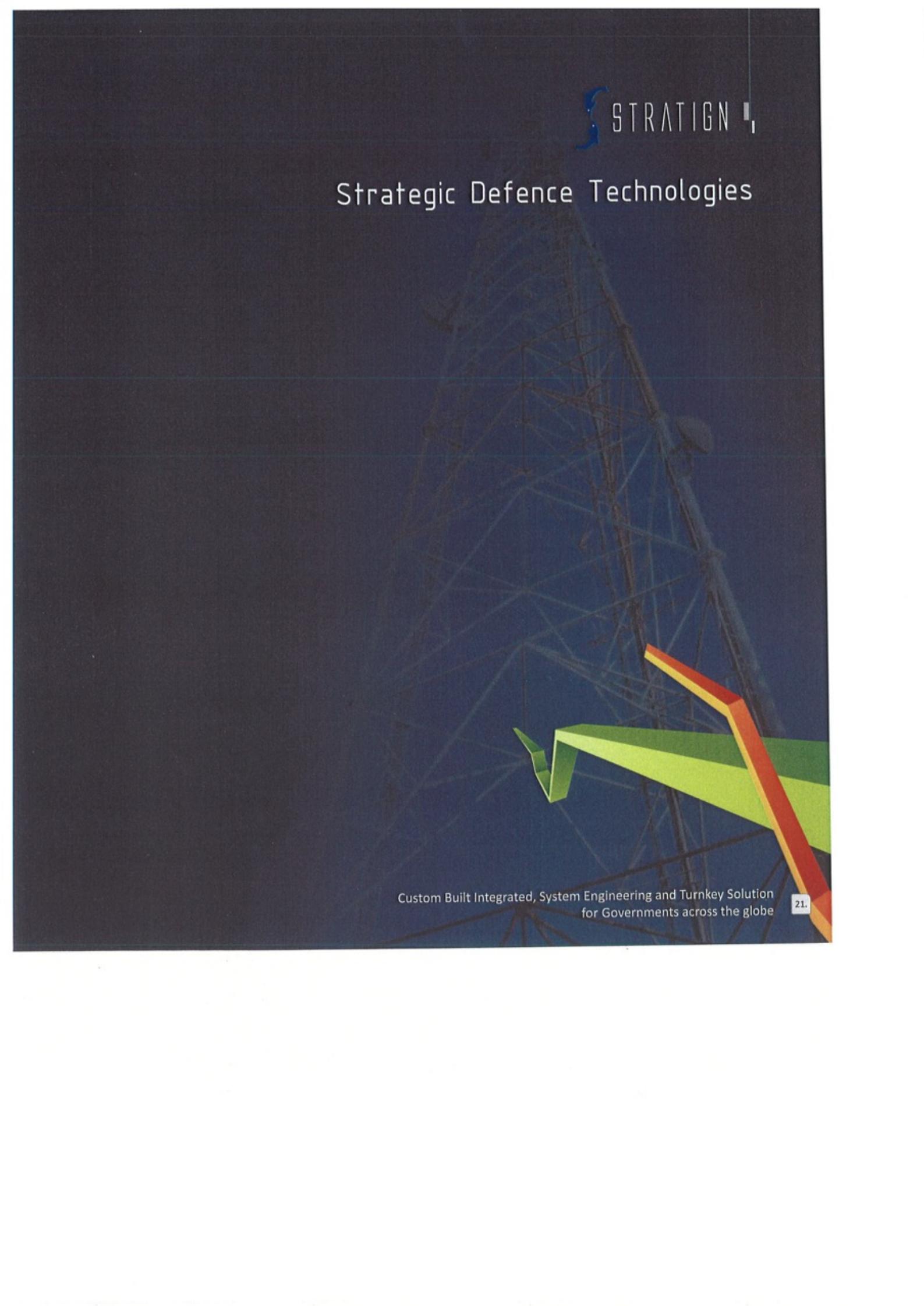
Spy Phone is a software based application which can be installed on a target phone. The application works in stealth mode making it impossible for the target to detect its presence. The application is capable of intercepting telephone conversations, room conversations, SMS's being sent and received by the target and GPS location of the target. The application sends all the intercepted information to a predefined number.

Parameter	Value
Call Interception	Listen to Phone Call
Bugging Device	Environment Listening
SMS Logging	Incoming / Outgoing
Call History	Incoming / Outgoing
Call Duration	Incoming / Outgoing
GPS and Cell ID Location Tracking	Available
Remote Control	Available





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21.

COMMUNICATION SURVEILLANCE

CELLULAR

Semi Active GSM Monitoring System
Passive GSM Monitoring System
A5.1 Decryption System
CDMA Monitoring System
SPY Phone

SATELLITE

Satellite Monitoring System
Fixed Thuraya Monitoring System
Portable Thuraya Monitoring System
Tactical ISAT Pro Monitoring System
Iridium Monitoring System
VSAT Communication Interception System





Strategic Defence Technologies

RADIO

Microwave Communication Collection and Processing System
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Wi-Fi Monitoring System

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System
IP Monitoring System
Voice & Fax Logger System

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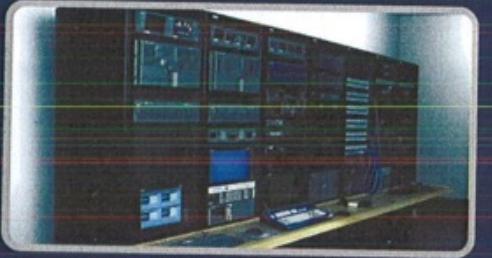
COMMUNICATION SURVEILLANCE

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SATELLITE	
Satellite Monitoring System	
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SATELLITE

Satellite Monitoring System (STN-3412)



STN-3412 is an Integrated Satellite Carrier and Content Monitoring, Processing, Decoding and Analysis System designed to analyze and intercept C and Ku-Band satellite networks, which are using any kind of compressed and non compressed E1 carriers. The Built-in Generic DCME processing software application can process multiple compression schemes and provides decompressed output.

System is capable to Demodulate, Decode, Classify the type of DCME and decompress the data in real time. System is equipped with software controlled universal satellite demodulator, which is capable of demodulating and decoding any kind of satellite carrier. The Embedded Automatic DCME classifier enables the system to recognize the type of DCME being used on the processed carrier and program the decompression module to decompress the carrier in real time. This generic DCME classification and decompression module makes the system powerful to handle any kind of compressed and non compressed E1 carrier's.

System provides Voice, Fax and Data sessions after decompression which can be played or viewed on the client stations. The built-in SS7 analysis module performs automatic analysis on the carrier and displays its various identity parameters including originating point country, destination point country and call related information such as Date, Time of call, Called number, calling number etc..

System can easily be upgraded to intercept and decode high speed IP stream, GSM A and Abis carriers. The interception of high speed IP stream carrier will enable the operator to automatically process and decode E-Mails, browsed web pages, Downloaded files etc.. For GSM A and Abis interface the system can provide call contents and call related information transmitted via satellite from BSC to MSC and BTS to BSC respectively.

Parameter	Value
Frequency Band	C, Extended C and Ku etc
Minimum Compressed/ Non-Compressed Carrier Handling capacity	2E1
Maximum Compressed/ Non-Compressed Carrier Handling capacity	No limitation depending upon configuration opted
Intercepted Traffic Type	Voice, Fax and IP data
Intercepted Parameters	Called Number, Calling Number, OPC, DPC
Modulation types	BPSK, QPSK, OQPSK, PSK8, QAM16, QAM32, QAM64, APSK
De-multiplexer availability	IBS, IDR, programmable (three- stage option)
Inner decoder	Reed - Solomon
Outer decoder	Fano, Viterbi, TPC, Trellis, DVB
Supported DCME Type	PCM, ADPCM, DTX-240 (D,E,F), DTX-240 (T), CELTIC PCME, NCM-501, DX-3000, TC-2000, DTX-360, DTX-600, DX-7000, DTX-600 IP
SS7 Analysis	Integrated with DCME Software
Database platform	MySQL
Integration with third party tool	Can be integrated
Security	Multilevel
Client Application	Graphical User Interface for the analysis of the intercepted data
Target	No limit on the target creation
Options	GSM A and A-bis Decoder High Speed IP Stream Decoder
Power Supply	220VAC/50Hz

SATELLITE

atic Thuraya Monitoring System

tic Thuraya interception system has been designed for the purpose of countrywide monitoring of Thuraya communications on both L and C Band. The system is capable of intercepting voice, fax and data transmissions on Thuraya network. The system can decrypt the Thuraya communications in real time.

The system provides its users multiple applications such as advanced call analysis, GPS locations on a digital map, Geotagging etc.

Standard configuration of the system provides monitoring of minimum 7 spot beams and 84 duplex calls simultaneously.

Strategic Defence Technologies

Parameter	Value
Supported Satellite	Thuraya 2 and Thuraya 3
Frequency Band	L-Band Downlink C-Band Downlink
No. of Spot Beam	7 (Standard Configuration)
No. of Channel	84 Duplex channels (Standard) Can be upgraded upto 224 channels
Coverage area (Standard)	Upto 900 Km L-Band Downlink Upto 900 Km C-Band Downlink
Deciphering Algorithm	Used on Thuraya Network
Intercepted Traffic Type	Voice, SMS, Fax
Intercepted Parameters	IMEI, IMSI, TMSI, Geo-location of the target, Called and Calling Numbers, Spot Beam ID
MAP	Pre-Integrated Commercial map, Option to load and configure customers own digital MAP
Options	Customised configuration for number of spot beams as per requirement L-band Remote Integration to increase the coverage range of the system C-band Only System to Monitor Complete Thuraya Gateway
Power Supply	220VAC/50Hz



COMMUNICATION SURVEILLANCE

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SATELLITE

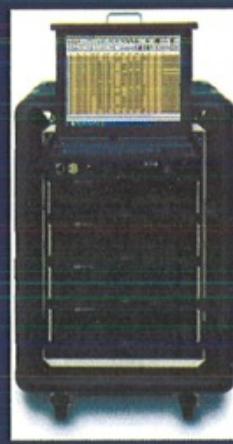
- Satellite Monitoring System
- Fixed Thuraya Monitoring System
- Portable Thuraya Monitoring System
- Tactical ISAT Monitoring System
- Iridium Monitoring System
- VSAT Communication Interception System

SATELLITE

- Portable Thuraya Monitoring System

The PTMS is designed and developed for Passive Thuraya Monitoring. The System is portable and can be easily carried for tactical operations. The system is capable of intercepting SMS and voice communications from Thuraya phones from within its coverage range. The system can also locate the geographic coordinates where the phone is operating. The system monitors L-band (b/w Thuraya satellite and Thuraya mobile both uplink and downlink), provides traffic monitoring of the targeted spot beam. System uses state of art technology for deciphering of cipher algorithms used on Thuraya network. System uses proprietary technology to scan the active spot beams in the coverage range of the antenna and after scanning provides the list of available spot beams with spot beam ID, latitude and longitude of the center of the spot beam, signal strength and signal quality. Once the scanning is completed the operator can tune the system to spot beam of interest. Target mobile units can be displayed on a GIS map. The GIS subsystem is connected to the database and is updated regularly. Standard configuration of the system can monitor upto 4 spot beams and 12 duplex calls simultaneously.

Parameter	Value
Supported Satellite	Thuraya 2 and Thuraya 3
Frequency Band	L-Band Downlink L-Band Uplink
No. of Spot Beam	Upto 4
No. of Channel	12 channel Duplex
Coverage area	Upto 15 Km on Uplink Upto 600Km on Downlink
Deciphering Algorithm	Used on Thuraya Network
Intercepted Traffic Type	Voice, SMS, Fax
Intercepted Parameters	IMEI, IMSI, TMSI, Geo-location of the target, Called and Calling Numbers, Spot Beam ID
MAP	Pre-Integrated Commercial map, Option to load and configure customers own digital MAP
Power Supply	220VAC/50Hz



SATELLITE

Tactical ISAT Pro Monitoring System

Strategic Defence Technologies

The ISAT Pro Monitoring System (STN-INT-SISM) is designed and developed as a 100% Passive Monitoring System which is capable of monitoring, ciphering and logging ISAT Pro communications including Voice and SMS. The ISAT Pro Monitoring system is capable of providing both side of the communication (full duplex call), call related formation of the ISAT Pro Phone by monitoring of both uplink and downlink at the L-band.

This system uses state of art technology for deciphering cipher algorithms used on ISAT Pro network. This system is using proprietary technology to scan the active spot beams in the coverage range of the antenna and after scanning provides the list of available active spot beams. Once the scanning is completed the operator can tune the system to spot beam of interest.

Parameter	Value
Supported Satellite Network	Inmarsat
Frequency Band	L-Band downlink L-Band Uplink
Total No. of channels	Up to 32 Duplex Channels
Coverage area (Standard)	Up to 20 Km on Uplink Up to 2000 Km on Downlink
Intercepted Traffic Type	Voice, SMS, Fax, Data sessions
Intercepted Parameters	IMEI, IMSI, TMSI, Geo-location of the target, Called and Calling Numbers, Spot Beam ID
Options	Customised configuration for number of spot beams as per requirement
Power Supply	220VAC/50Hz



COMMUNICATION SURVEILLANCE

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SATELLITE

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VSAT Communication Interception System

SATELLITE

Iridium Monitoring System

STN-3415 is Passive Iridium Monitoring System, designed for automatic monitoring of iridium UPLINK and DOWNLINK at the L-band .System intercept and records Voice, SMS and Data sessions along with Call Related Information from iridium network.

The Iridium Monitoring System can be customized and engineered to meet the end users specific requirements and target communication media. Stratign is competent to deliver an Automated State of the Art Integrated Iridium Monitoring Platform to its users with all Sub Assemblies and Software control, engineered by our experienced Communication Intelligence Division.

Parameter	Value
Supported Satellite Network	Iridium
Frequency Band	L-Band downlink L-Band Uplink
Total No. of channel	Upto 32 Duplex Cahnnels
Coverage area (Standard)	Upto 20 Km on Uplink Upto 2000 Km on Downlink
Intercepted Traffic Type	Voice, SMS, Fax , Data sessions
Intercepted Parameters	IMEI, IMSI, TMSI, Geo-location of the target, Called and Calling Numbers, Spot Beam ID
MAP	Pre-Integrated Commercial map, Option to load and configure customers own digital MAP
Options	Customised configuration for number of spot beams as per requirement
Power Supply	220VAC/50Hz



SATELLITE

VSAT Communication Interception System

The VSAT Interception system is a total Integrated and Engineered solution for the purpose of monitoring, analysis and processing of multiple SAT terminals. Standard configuration of the system is designed to intercept and process Hughes ES, Hughes TES and iDirect NetModem.

System is capable of monitoring both enroute and intra-route traffic. The configuration of the system can be designed as per the customer requirement. The demodulator and decoder are configurable to handle any non-proprietary/Target VSAT equipment supplier's protocol, and can provide real time decoding for the same. In the case of proprietary/customized protocol, Stratign can customize the decoder to handle these protocols in real time.



Strategic Defence Technologies

Parameter	Value
Frequency Band	C-Band , Ku-Band, L-band
Carrier Analysis	Interactive
Supported Network VSAT Type	Hughes PES, Hughes TES , iDirect NetModem
Intercepted Traffic Type	Voice, Fax, All web pages browsed by the terminal, All e-mails sent and received with attachments, User ID and Password, Any downloaded or uploaded file's, All IP addresses, All raw data retained for analysis ,Instant Messaging, chat (rooms & peer to peer), buddy information, VOIP Sip and H323, Viewing of demodulated Fax transmissions
Standard Config. for PES/TES	1 Hub 4 Channels
iDirect	Hub
Options	GSM A & A-bis decoder
Power Supply	220VAC/50Hz

COMMUNICATION SURVEILLANCE

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for Governments across the globe

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COMMUNICATION SURVEILLANCE

CELLULAR

Semi Active GSM Monitoring System
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Strategic Defence Technologies

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Microwave Communication Collection
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LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System
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COMMUNICATION SURVEILLANCE

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31.

RADIO

Microwave Communication Collection

and Processing System

HF Monitoring, Dehopping

and Direction Finding System

HF/VHF/UHF Monitoring System

Wi-Fi Monitoring System

RADIO

Microwave Communication Collection
and Processing System (**STN-0518**)

Microwave Communication Collection and Processing System is designed and Integrated for the purpose of passive interception, logging and analysis of high speed (E1/E2/E3) microwave communication links. Microwave Communication Monitoring system is capable of covering frequency range from 0.5MHz to 18 GHz (42 GHz optional). The fast scanning search receivers are integrated with monitoring receivers to intercept communication channel of interest. The Microwave Communication Monitoring systems can be customized and engineered to meet the end users specific requirements and target communication media.

The Microwave Communication Interception System comes in a transportable chassis where all the modules are seamlessly integrated to provide an Integrated Monitoring and surveillance platform to the operator for effective and efficient Interception process. The Microwave Communication Interception System can be easily fitted in a vehicle-of customs - choice or can be used for static applications.

Parameter	Value
Frequency Range	0.5 MHz -18 GHz (42 GHz optional)
Supported Network Protocols	PCM,TDM
Demultiplexer	Pre-Integrated PCM and TDM, E3, E2
Demodulator	AM, FM, PM, 2 to 16 FSK, 2 to 8 PSK, 16 QAM, GMSK, DBPSK, DQPSK, OQPSK, UQPSK
Intercepted Traffic Type	VGC
Options	High Gain Directional Antenna
Power Supply	220VAC/50Hz



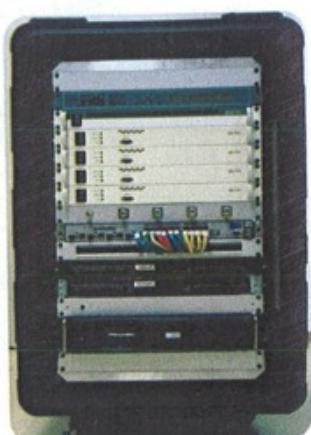


Strategic Defence Technologies

RADIO

HF Monitoring, Dehopping
and Direction Finding System

The STN-AMRIDS is designed and integrated for the purpose Analysis, Monitoring, recording and Multi- channel Direction finding of targetted hopping HF Radio links operating in the frequency range of 0 - 32 MHz. The system provides the intelligence community with the capability of acquisition of hopping signals, inactive de-hopping, offline de-hopping and reconstruction of transmitted information.



Parameter	Value
Frequency range	0 - 32 MHz
Analysis bandwidth	90 Hz - 500 kHz
Displays	Color spectrogram / spectrum
Demodulation	AM / USB / LSB / FM / CW with selectable BFO
Filters	Voice filter / highpass / lowpass
Wideband multi-channel direction-finding	Multi-channel DF (Watson-Watt)
Method	100 kHz - 32 MHz
Frequency range	30 - 500 kHz / non scanning
Bandwidth	0 - 360°
Azimuth range	modulated signals
Demodulation of digitally modulated signals	30 kHz
Demodulator bandwidth	ASK2, MSK, FSK matched filter, FSK discr., PSK2 A/B, PSK4 A/B, PSK8 A/B, 2ASK/8PSK, 4ASK/8PSK, QAM16, twinplex (F7B)
Type	500 kHz
Input bandwidth of non linearized signal	Power supply
	230V ± 10% / AC, 50 Hz

COMMUNICATION SURVEILLANCE

RADIO

Microwave Communication Collection

and Processing System

HF Monitoring, Dehopping

and Direction Finding System

HF/VHF/UHF Monitoring System

Wi-Fi Monitoring System

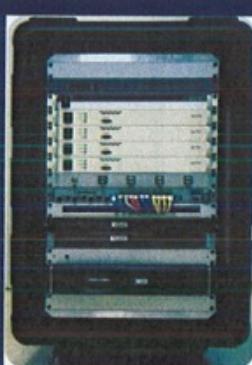
RADIO

HF/VHF/UHF Monitoring System

The System is designed and Integrated for the purpose of Passive Interception, Logging and Analysis of Target HF/VHF/UHF Radio Links operating in Frequency range of 2MHz–3GHz. The system comes in a Transportable chassis where all the modules are seamlessly integrated to provide an Integrated Monitoring and surveillance platform to the operator for effective and efficient Interception process.

STN-HVU enables the online monitoring of a 16 MHz-broad band (optionally 24 MHz) in the freely selectable frequency range between 2 MHz and 3 GHz as well as the recording of a 4 MHz-band lying in the monitoring range (optionally 8 MHz). The wideband monitoring and recording is made possible by the use of a ComCat-Tuner and other standard modules. STN-HVU offers a server-supported wideband recording and data storage. The stored data are analyzed by means of different offline functions. STN-HVU is implemented as client-server-system.

Parameter	Value
Frequency range	2 MHz-3 GHz
Analysis bandwidth	any FFT length: 64 2048 610 Hz
Displays	Color spectrogram/spectrum Instantaneous magnitude / frequency / phase Constellation diagram (phase star)
Demodulation	AM / USB / LSB / FM / CW with selectable BFO
Filters	Voice filter / highpass / lowpass
Demodulation	Digitally modulated signals
Demodulator bandwidth	30 kHz
Type	ASK2, MSK, FSK matched filter, FSK discr., PSK2A/B, PSK4 A/B, PSK8 A/B, 2ASK/8PSK, 4ASK/8PSK, QAM16, twinplex (F7B)





RADIO

Wi-Fi Monitoring System

The STN-2052 is Passive Wi-Fi interception system designed for the law enforcement and security officers to collect Wi-Fi data packets, from all 802.11x channels in completely passive stealth mode. The system is capable of intercepting data from all 14 channels of the wi-fi network. After capturing data, a Decryption module will decrypt the traffic for further analysis with Wireless Analyser Software. The decryptor is capable of decoding WEP and WPA keys.



Strategic Defence Technologies

Parameter	Value
Support Network	Wi-Fi
Processor	P4 CPU, 1GB RAM memory, SATA1 7200RPM HDDs 80GB(system) + 300GB(data) External mounting 3 SATA1 HDDs
Intercepted Traffic Type	All web pages browsed by the target, All e-mails sent and received with attachments, User ID and Password, Any downloaded or uploaded file's, All IP addresses, All raw data retained for analysis, Instant Messaging, chat (rooms & peer to peer), buddy information, VOIP Sip and H323, Viewing of demodulated Fax transmissions
Supported Wifi Channels	14
Key Recovery	WEP, WPA, WPA2-PSK with or without FPGA acceleration
Antenna	2.4 GHz omnidirectional antenna with 6dBi gain
Size	19' 4U rack case
Options Available	Hardware Decryptor
Power Supply	230VAC/50Hz

COMMUNICATION SURVEILLANCE

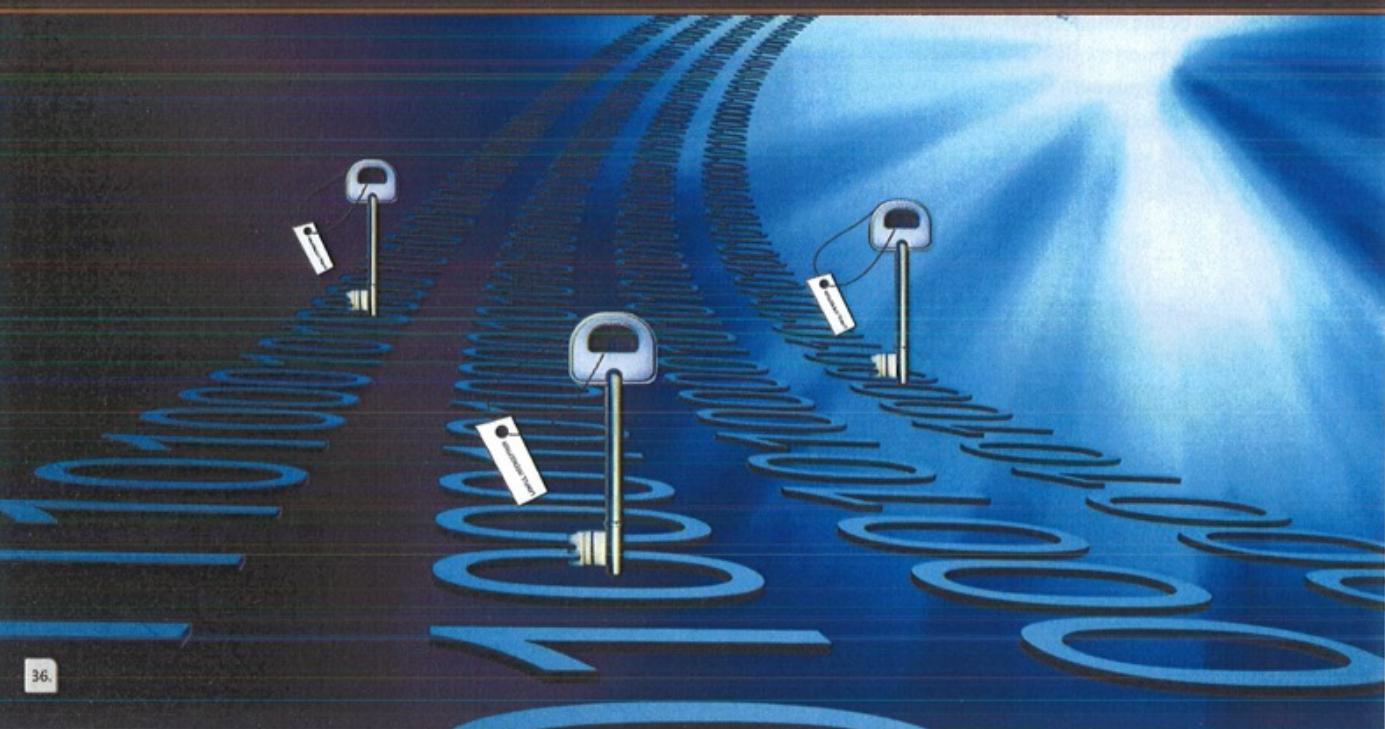
COMMUNICATION SURVEILLANCE

CELLULAR

Semi Active GSM Monitoring System
Passive GSM Monitoring System
A5.1 Decryption System
CDMA Monitoring System
SPY Phone

SATELLITE

Satellite Monitoring System
Fixed Thuraya Monitoring System
Portable Thuraya Monitoring System
Tactical ISAT Pro Monitoring System
Iridium Monitoring System
VSAT Communication Interception System





Strategic Defence Technologies

RADIO

Microwave Communication Collection
and Processing System
HF Monitoring, Dehopping
and Direction Finding System
HF/VHF/UHF Monitoring System
Wi-Fi Monitoring System

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System
IP Monitoring System
Voice & Fax Logger System

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System
IP Monitoring System
Voice & Fax Logger System

COMMUNICATION SURVEILLANCE

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System

IP Monitoring System

Voice & Fax Logger System

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System

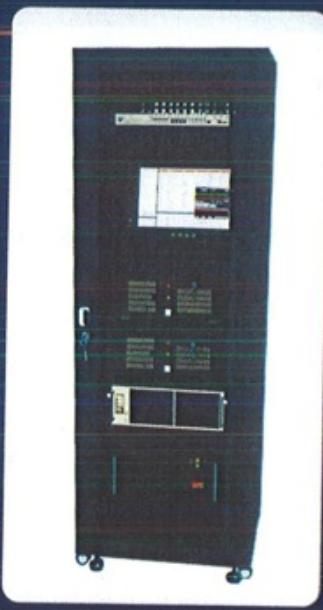
The Lawful Interception System offered by stratign is designed for law enforcement and intelligence agencies . The offered system is a turnkey solution for the monitoring, processing, decoding, distribution and presentation of intercepted data of targets from circuit switched networks. (E.g. GSM/CDMA/PSTN) as well as for packet switched networks (e.g. GPRS, EDGE, UMTS and High Speed IP backbones).

The system is compliant with global standards specifications such as ETSI, CALEA etc and can also support country specific L.I. handover protocols.

Logging of incoming and outgoing calls with details like date, time, duration, number CLI, dialed Number, IMEI, IMSI, TMSI, Cell ID etc.

Embedded GIS location tracking system displays real time location of targets in the case of GSM/CDMA Lawful intercepts.

Parameter	Value
Intercepted Traffic Type	Voice, Fax, SMS and Data
Input lines	Analogue, E1 and T1
compliant CRI interfaces	CALEA, ETSI and Non-standard CRI interfaces
Signal Detection	Robbed Bit Signaling, SS7 ISU P, ISDN PRI Q.931, PCM 31 with VOX, C-Tone, Voltage detect
Demodulation	V.21, V.22, V.22bis, V.23, V.32, V.32bis, V.34, V.90 and V.92





LAWFUL INTERCEPTION

IP Monitoring System

Internet monitoring system is a modular and scalable monitoring platform with very flexible expand-on-demand capabilities. The solution is aimed at law enforcement agencies or intelligence organizations that have the responsibility to register and record Internet activities as part of their function. It will allow you to handle all your monitoring requirements on a single, flexible and scalable platform. With its built-in tools for signal analysis and handling voice, fax and internet traffic, you are in position to enhance the efficiency of your daily operations dramatically.

Strategic Defence Technologies

Parameter	Value
Intercepted Traffic Type	All web pages browsed by the terminal, All e-mails sent and received with attachments, User ID and Password, Any downloaded or uploaded file's, All IP addresses, All raw data retained for analysis ,Instant Messaging, chat (rooms & peer to peer), buddy information, VOIP Sip and H323,Viewing of demodulated Fax transmissions
Input lines	Analogue, E1 and T1
compliant CRI interfaces	CALEA, ETSI and Non-standard CRI interfaces
Signal Detection	Robbed Bit Signalling, SS7 ISU P, ISDN PRI Q.931, PCM 31 with VOX, C-Tone, Voltage detect
Decoded protocol	VoIP H.323, SIP, FoIP, HTTP, FTP, UDP, SMTP / POP3, IMAP, MIME, NNTP, TELNET, IRC, ICQ, AIM, Yahoo IM, MSN Messenger
Demodulation	V.21, V.22, V.22bis, V.23, V.32, V.32bis, V.34, V.90 and V.92

COMMUNICATION SURVEILLANCE

LAWFUL INTERCEPTION

GSM/CDMA /GPRS Monitoring System

IP Monitoring System

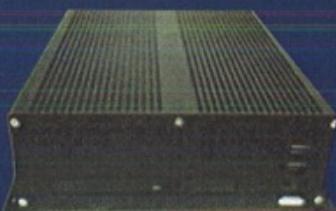
Voice & Fax Logger System

LAWFUL INTERCEPTION

Voice and Fax Logger System

Stratign Digital Voice/ Fax Logger STN-2050USB is a PC based Multi-Channel Digital Recorder designed for intercepting the voice and Fax communication along with Call Related Information from PSTN lines. System stores intercepted calls on hard disk of the PC/Laptop. The integrated analysis software offers extended search capabilities based on In/out tag, Calling Date, Call Start Time, Call End Time, Call Duration etc. The recorded voice calls is stored as a .wav file, whereas the fax is stored as a tiff image file.

Parameter	Value
Supported Networks	PSTN, Radio, Diverted calls on GSM
No. of Channel	Available in 4, 8, 16, 32 and 64 Channel configurations
Intercepted Traffic type	Voice, Fax &SMS
Input Signal	Analog Telephone Lines, Audio from HF/VHF/UHF radios, Speech from Microphones
Input Port	Standard RJ-11 Female connector
Storage media	Hard Disk, CD ROM, DAT Tape.
Supported Fax protocols	G.711, V.21, V.27ter, V.29, V.17, T.30, T.4 and T.6 recommendations
Power Supply	230 Vac, 50 Hz





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SIGNAL ANALYSIS

SIGNAL RECEPTION & ACQUISITION

HF/VHF/UHF Digital Tuner
Shortwave Receiver (USB and PCI Based)
VHF/UHF Scanning Receiver
(USB/PCI/RS232 Based)
Network Receiver

SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System
Advance Digital Spectrum Analyser
Multi Channel Signal Analysis Station
Document Analysis System
Speech Analysis System
High Speed IP Stream Decoder
GSM A and A-bis Decoder
Wide Band Recorder



Strategic Defence Technologies

DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

ANTENNAS

Active LF-HF Antenna
Active HF Antenna
Long Wire HF Antenna
Discone Antenna
X-24B Discone Antenna
Telescopic Antenna
Planar Log-Periodic Antenna
Indoor Active HF Antenna
Sonobuoy Telemetry Antenna
Flexible VHF/UHF Antenna
Broadband Horn Antenna

SIGNAL RECEPTION & ACQUISITION

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SIGNAL RECEPTION & ACQUISITION

HF/VHF/UHF Digital Tuner

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SIGNAL RECEPTION & ACQUISITION

HF/VHF/UHF Digital Tuner

HF/VHF/UHF Digital Tuner is high performance Digital Tuner providing frequency coverage from 100 KHz to 3GHz with 1 Hz tuning resolution. The tuner can be operated by remote control and has extensive built in test systems to monitor the health of the unit.

HF/VHF/UHF Digital Tuner is integrated with wideband analog to digital converter and provides digital IF output over Ethernet to support other application modules and has been designed to fulfill the today's communication intelligence requirements.

Digital Tuner works with a 70,140 or 160 MHz IF (factory option) with a 30 to 0 dBm power level and accept input signal up to 40Msps baud rate. The compact and robust design of the tuner gives flexibility to deploy it in static and mobile monitoring posts.

Parameter	Value
Frequency range	100 kHz - 3 GHz
Tuning bandwidth	625 Hz - 16 MHz
Sampling Rate	80 MS/sec
Digital Down Converter	Variable decimation by 4, 16 to 4092, increment 4
Frequency Accuracy	+/- 1x10-7
Tuning Resolution	1 Hz
Attenuation HF	2 dB / 6 dB
Maximum Gain	30 dB, minimum
Power Consumption	100-240 Volt AC, 50-60 Hz, 50 Watt
MTBF	> 10.000 hrs (MIL-HDBK)





SIGNAL RECEPTION & ACQUISITION

Shortwave Receiver (USB and PCI Based)

The G313e is a software-defined high-performance HF receiver (9 kHz to 30 MHz, optionally extendable to 180 MHz) with a USB interface. This receiver is intended for government, military, security, surveillance, broadcast monitoring, industrial and demanding consumer applications.

The receiver is extremely sensitive, making it possible to comfortably read CW signals under 0.05 μ V input levels, yet featuring a respectable 95 dB dynamic range making the receiver resistant to strong signal overload. The high sensitivity is also matched by that of the S-meter: The fully calibrated S-meter shows the received signal levels in dBm, μ V or S-units, down to the - 140 dBm noise floor.

The receiver connects to an IBM-compatible PC via the USB port. Several receivers can be controlled by a single PC to form a multi-channel HF receiver system. The receiver has its own on-board DSP, and does not rely on the PC sound card for the signal input; the digitization is done in the receiver itself, using a high-performance analog-to-digital converter. As the DSP performs the final stage IF filtering and all demodulation, this receiver is entirely software-defined, which means that additional demodulation or decoding modes can be easily added by a mere software change.

Strategic Defence Technologies

Parameter	Value
Frequency range	9 kHz to 30 MHz, optionally extendable to 180 MHz
Sensitivity	under 0.05 μ V
Dynamic range	95 dB
PC Interface	USB and PCI
Operating System	Windows XP/Vista/7



SIGNAL ANALYSIS

SIGNAL RECEPTION & ACQUISITION

- HF/VHF/UHF Digital Tuner
- Shortwave Receiver (USB and PCI Based)
- VHF/UHF Scanning Receiver (USB/PCI/RS232 Based)
- Network Receiver

SIGNAL RECEPTION & ACQUISITION

VHF/UHF Scanning Receiver (USB/PCI/RS232 Based)

The G305i is a software-defined USB -based wideband scanning receiver covering a frequency range from 9 kHz to 1800 MHz (expandable to 3500 MHz with an optional down converter). The PC-based receiver is USB-controlled and compatible with modern desktop and laptop computers with USB interface. An optional serial interface is also available.

The G305i is a Software Defined Radio SDR in such where demodulation and last IF (intermediate frequency) processing are done entirely in software. Usually this means using a DSP, but in the case of the G305i, this processing is done on a personal computer using a sound card (most modern PCs are now faster and more powerful than many DSPs were only a few years ago). So, if you own a PC, the chances are that you already own an important part of a software defined radio receiver.

In addition to the flexible and friendly user interface, with its numerous functions and facilities not normally available on any conventional receiver, the G305i receiver excels particularly by the ability of its demodulators. While the Standard Demodulator provides performance of a highly respectable scanning receiver including synchronous AM demodulation and a real-time spectrum scope, the optional Professional Demodulator offers even more: continuous IF filter bandwidth adjustment (in 1Hz increments), interactive block diagrams with two additional audio spectrum scopes, and even inbuilt THD and SINAD measurement facilities.

Parameter	Value
Frequency range	9 kHz to 1800 MHz
Receiver type	DDS-based dual-conversion superheterodyne with software-defined last IF stage and demodulator
Mode	AM, AMN, AMS, LSB, USB, CW, FM
Spot-on tuning Step	1Hz steps
Down-converter option	3.5 GHz
Continuously variable IF bandwidth	100 Hz - 15 kHz
PC interface	USB/PCI/RS232 Based
Bite (built in Test)	Available
Operating System	Windows XP/Vista/7
Decoder\demodulator option	DRM, APCO P25,





SIGNAL RECEPTION & ACQUISITION

Network Receive- (RLX-800)

The RLX-800 Network Receiver consists of a software-defined radio receiver and a web server on a Linux-based industrial computer platform. Simply plug the unit to a LAN or Internet network via a standard RJ-45 connector, and it is ready to be used. No additional hardware such as a PC, keyboard or monitor is required on the server side. The unit contains a highly reliable low-power Linux-based computer for server-side processing and storage. The actual receivers are well proven G313i (9 kHz to 30 or 180 MHz) or G315i (9 kHz to 1.8 GHz) models. The web-based configuration interface makes it possible to fully configure the communication parameters, such as the IP address, ports, users, passwords and user access rights.

Each user can be assigned different access privileges, which may specify the extent of the receiver control and access to the saved information. Both audio & IF recording and playback are possible. As monitoring activities take place in the server, this makes it possible to start a monitoring task remotely and then disconnect the client. The task then keeps running autonomously. A typical task may include recording, spectrum sweeping or activity monitoring.



Strategic Defence Technologies

The results can be saved on the server and later downloaded for later processing and analysis. Web-based user control makes it possible to create separate user accounts.

Apart from a standard web browser, the RLX-800 Network Receiver does not require any additional application software on the client side; all is provided by the built-in Java applet which runs on most common platforms. The Java applet makes it possible to observe the signal spectrum, measure the signal strength, tune the receiver, set the demodulation mode, control the IF filter bandwidth and other parameters such as volume, notch or audio filter, and listen to or record the demodulated audio.

Parameter	Value
Computer	Intel Celeron M CPU 1.5 GHz, HDD 2.5" 320 GB, 512 MB RAM, Linux OS
Receiver	G313 or G315 series, frequency range from 9 kHz up to 1.8 GHz
Power	42 W (9 to 30 V DC), AC/DC Adapter 100-240 V (supplied)
Operating temperature	-20 to 50 deg C
Dimensions	Length: 9.33" (237 mm) Width 8.39" (213 mm) Height: 4.16" (105 mm)
Weight	10.1 lb (4.6 kg)

SIGNAL ANALYSIS

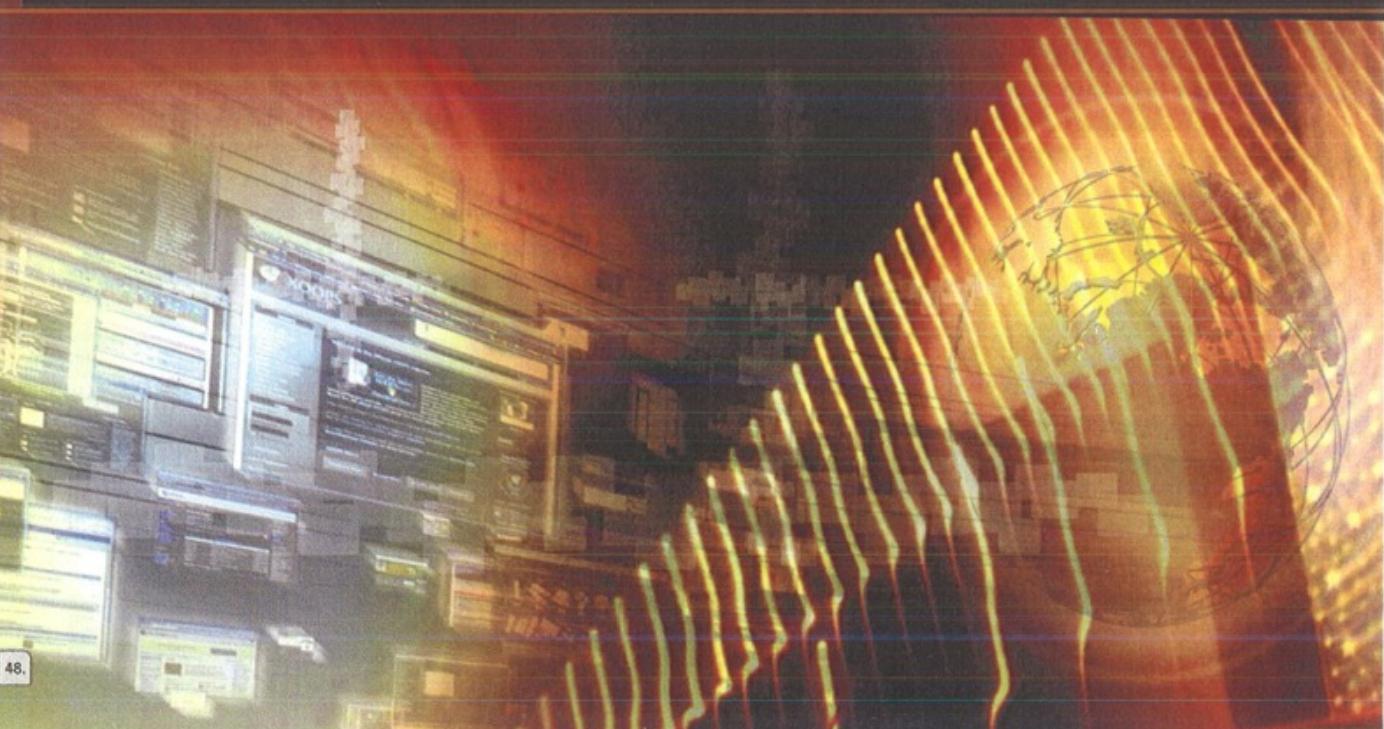
SIGNAL ANALYSIS

SIGNAL RECEPTION & ACQUISITION

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SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System
Advance Digital Spectrum Analyser
Multi Channel Signal Analysis Station
Document Analysis System
Speech Analysis System
High Speed IP Stream Decoder
GSM A and A-bis Decoder
Wide Band Recorder





Strategic Defence Technologies

DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

ANTENNAS

Active LF-HF Antenna
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SIGNAL ANALYSIS

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SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System

The DCME Analysis and Monitoring System was developed to intercept DCME terminals operating in point to point mode. The DCME Monitoring System is pure software application and designed to handle variety of DCME types available in the market.

Law enforcement agencies find the costs of intercepting DCME traffic prohibitive as two sets of DCME equipment are required for every link. Having bought the equipment, they have the difficulty of configuring the systems for each of the links. Because of the limited access to the bearer channels, analysis is a trial and error affair. When used in receive-only mode it is difficult to set-up the pre-assign clear, data and voice channels. Incorrect channel assignment results in corrupted traffic channels.

The DCME analysis and monitoring system is designed to classify, process and decompressed the compressed signals transmitted over the satellite links. DCME Digital Signal Processor (DP) consists DCME Classification Module responsible for identifying DCME type, DCME Decompression Module responsible for decompression and Collation, Processing and Archiving Module responsible for recording and archiving.

Hardware	Code Type	Signalling System
PCM	PCM-A, PCM-U	C5, SS7, R1, R2, By spectrum
ADPCM	ADPCM G.726	
DTX-240 (D,E,F)	Variable	C5, SS7, by spectrum
DTX-240 (T)		
CELTIC		
PCME		
NCM-501	ADPCM G.726	
DX-3000	ADPCM OKI	
TC-2000		
DTX-360	LD-CELP G.728	SS7, by control channel
DTX-600	LD-CELP G.729	
DX-7000	Variable	
DTX-600 IP	variable	Ss7





SIGNAL ANALYSIS & PROCESSING

Advance Digital Spectrum Analyser

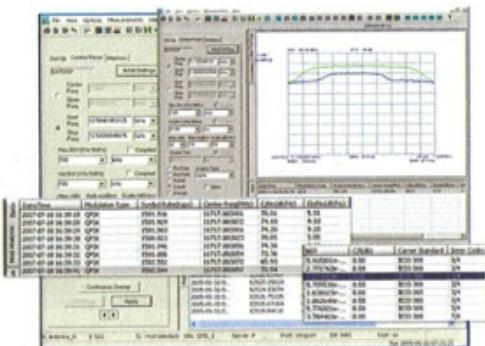
The Advance Digital Spectrum Analyzer is a modern spectrum analyzer with advanced features, designed for passive Spectrum analysis and monitoring satellite carrier.

To monitor carrier parameters, the system performs a detection process that automatically separates the carriers from the noise floor. Satellite monitoring system searches for all carriers in the spectrum, each carrier is automatically detected and analyzed. Automatic monitoring repeatedly tests carriers defined by a user initiated plan.

Tests include: Center Frequency, Bandwidth, RF Power and Eb/No. It also reports modulation characteristics including: Modulation Type, symbol rate and FEC. Interference Detection, Display and alarming of interfering carriers makes the ADSA ideal for monitoring satellite links.

Strategic Defence Technologies

Parameter	Value
L-Band Input	L-Band (950 to 2,150 MHz) is converted to second IF before digitizing. This configuration provides 85 MHz of instantaneous bandwidth
Automatic Carrier parameter Measurement	RF Power, Center Frequency, Bandwidth, Eb/No, C/No
Automatic Unique Parameter Measurements	Modulation type (16QAM, BPSK, QPSK, OQPSK and 8PSK), Symbol rate, BER, Eb/No
Spectrum trace	Displays a single trace or multiple traces simultaneously
Measurement Storage	Yes
Power Supply	220VAC/50Hz



SIGNAL ANALYSIS

SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System
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SIGNAL ANALYSIS AND PROCESSING

Multi Channel Signal Analysis Station

Multi Channel Signal Analysis system is PC-based 4-channel Automated Signal Analyzer, Demodulator and Decoder for narrowband signals. Multi Channel Signal Analysis system is designed to work in both online and off line mode. Signal Analyzer offers an intuitive and powerful user interface and embedded intelligence to assist operators and analysts with proper collection, tuning and decoding of number of short-duration calling and link-establishment protocols.

The Multi Channel Signal Analysis system comes with an On Line Modulation and Coder Classifier, which automatically classify the modulation and coding schemes used in the Signal. On determination of these parameters; the system automatically implements the required demodulator and decoder to provide output. Multi Channel Signal Analysis system PC-based 4-channel Automated Signal Analyzer is equipped with built-in signal generator which can generates variety of signals such as ASK, FSK, MFSK, PSK, Hybrid, QAM16, various CCITT / ITU variants and OFDM.

Parameter	Value
Number of channels	4
Frequency range	20 Hz - 20 kHz
ADC	96K Samples/s @ 24 bit
AF-Outputs (listening-in, signal generator) Frequency Range	20 Hz - 20 kHz
DAC	96K Samples/s @ 24 bit
Range/level	1.6 uV.... 0.3 V
Digital demodulation type	AM /USB /LSB /FM /CW (variable BFO)
Filters	voice filter / highpass / lowpass
Modulation Types (generic)	ASK2, MFSK, FSK Matched Filter, FSK Discr., PSK2 A/B, PSK4 A/B, PSK8 A/B, 2ASK/8PSK, 4ASK/8PSK, QAM16, Twinplex (F7B), OFDM
Bit-Error Rate	< 3*10-5 (i.e. PSK2A @ SNR = 10 dB)
Power Supply	230V ± 10% / AC



Strategic Defence Technologies

SIGNAL ANALYSIS & PROCESSING

Document Analysis System

Document Analysis System is designed for the document analysis against defined criteria e.g. number of words in the text- entities such as places, names, organizations. Document Analysis System provides visual representation of documents & analysis results as per the define criteria. Document Analysis System also provides the statistical analysis of texts such as Keywords, N- grams and Word associations.

General information on the analyzed document is compiled as metadata. This metadata includes the following information, for example: Document name, Source directory, Creation date, Number of words, lines and characters, National language. Document Analyzer automatically identify the text in German, English, French. And the user can integrate many more themselves.

Parameter	Value
Operating systems	Windows, Linux
Automatic national language identification	German, English, French, Italian, Other languages on request
Text analysis	English, German, Other languages on request
Functions	Word statistics, Automatic determination of keywords and n-grams, Word associations, Visualisation of associations and entities , Histogram for word frequencies Marking (tagging) of entities: proper names, places, date, etc.,



SIGNAL ANALYSIS

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for Governments across the globe

53.

SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System
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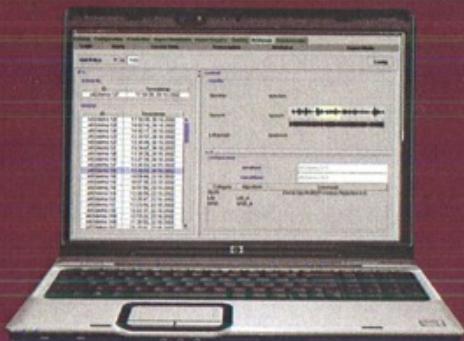
SIGNAL ANALYSIS AND PROCESSING

Speech Analysis System

Speech Analysis System designed for speech detection and language classification in real time. Speech classifiers of Speech Detection & Language Classification system are based on robust statistical methodology. A (labeled) signal recording that is representative of each scenario is used in training. In a second process, the computer model generated during training determines the quality of the classifier.

This involves carrying out a classification using new (labeled) signal recordings. The classification results can then be compared with the labeling and are available for use as a confusion matrix. The algorithm is independent of the spoken language, thus a speaker can be found also when communicating in another language. Training material for a certain speaker is necessary: a rejection for unknown speaker is also possible

Parameter	Value
Operating System Supported	Windows 2000, Windows XP Linux (S.u.S.E. 7.x and higher) SUN Solaris 8.x
Archive Server	Disk space: > 100 GB, depends on usage RAM: > 256 MB CPU: one processor machine
Client (Graphical User Interface) Configuration	Normal PC or notebook Disk space: 30 GB RAM: 256 MB CPU: 600 MHz Pentium
Interfaces	Input: file based (Text-/WAV files), header file with information must be specified. Output: file based (Text, XML)





SIGNAL ANALYSIS & PROCESSING

High Speed IP Stream Decoder

IP Decoder Software Application is designed to handle high speed IP stream containing high volumes traffic and is capable to decode all known standard protocols. It can be used as a standalone solution or can be part of a large monitoring station.

Decoding of High Speed IP Traffic
will provide the following:

- E-Mails
 - E-mail attachments like MS word, pdf, zip, jpeg etc. Html Pages
 - Webpages
 - VoIP
 - Video files
 - Audio files
 - Downloaded *.doc, *.ppt, *.pdf, *.jpeg, *.zip etc.

Parameter	Value
Intercepted Traffic Type	All web pages browsed by the terminal, All e-mails sent and received with attachments, User ID and Password, Any downloaded or uploaded file's, All IP addresses, All raw data retained for analysis ,Instant Messaging, chat (rooms & peer to peer), buddy information, VOIP Sip and H323,Viewing of demodulated Fax transmissions
Signal Detection	Robbed Bit Signaling, SS7 ISU P, ISDN PRI Q.931,
Decoded protocol	VoIP H.323, SIP, FoIP, HTTP, FTP, UDP, SMTP / POP3, IMAP, MIME, NNTP, TELNET, IRC, ICQ, AIM, Yahoo IM, MSN Messenger



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GSM A and A-bis Decoder
Wide Band Recorder

SIGNAL ANALYSIS AND PROCESSING

GSM A and A-bis Decoder

GSM A and A-bis processing module is designed for analyzing and processing digital streams with interface A-bis (BSC - BTS), handling upto 192 voice channels at 8 kbit/s or up to 96 - at a speed of 16 kbit/s, Abis level 3 interface commands encapsulated in HDLC control channel with LAPD protocol decoding and processing. Analyzing and processing digital streams with interface A (MSC - BSC), handling up to 232 voice channels at 8 kbit/s or up to 116 - at a speed of 16 kbit/s, SS7 SCCP interface commands with BSSMAP or DTAP encapsulated in HDLC control channel

Parameter	Value
Protocols Supported	GSM A, GSM A-bis
A-bis Interface (BSC-BTS)	Handling upto 192 voice channels at 8 kbps or upto 96 voice channels at 16 kbps.
A-bis interface	level 3 interface commands encapsulated in HDLC control channel with LAPD protocol decoding and processing
A Interface (MSC-BSC)	Handling upto 232 voice channels at 8 kbps or upto 116 voice channels at speed of 16 kbps.
A Interface commands	BSSMAP or DTAP encapsulated in HDLC Control channel.



SIGNAL ANALYSIS PROCESSING

Wide Band Recorder

Strategic Defence Technologies

R-SA-WBR Wide Band Recorder provides the recording of wideband signal as well as direction finding raw data. It consists of recording hardware with wide band tuner, which is controlled by software. WBR software provides monitoring and control of a wideband-tuner. The recorded data can be analyzed by the off-line utility of the WBR. The V-line utility provides a graphical user interface for control, power spectrum and sonogram display. Wide Band Recorder provides the flexibility for the operators to navigate within the displayed signals with the mouse and vary the displayed bandwidth by the zoom function. They can determine the amplitude and the signal field strength with the cursors. The analog demodulator can be tuned to the desired receiving frequency either with the mouse or with the keyboard.

V-Line utility of Wide Band Recorder provides a "Virtual Analyzer" application (VA), which allows fast access and quick processing of stored wideband data. The wideband signal can be displayed in different resolutions in the VA. This ranges from the display of the complete wideband signal to almost frequency resolution and time resolution.

Thereby, the zoom operations within the wideband signal are performed very fast at a simultaneous minimization of data transferred over the network. Emissions detected in the visualization can be marked and be added to a table of detected emissions. Each detected emission can be described by customized or prepared attributes, e.g. modulation type or other signal parameters. Functions can be applied on each emission, e.g. audio output or analysis. The functions are implemented as plug-ins. Thus, new functions can be added to an existing VA very easily.

Frequency Range	100 kHz - 30 MHz
Frequency Accuracy	+/- 1x10-7
Tuning Resolution	1 Hz
DCB Bandwidth	
HF	20 kHz (500/2000)
V/UHF	
Tuning Accuracy	< 0.2 Hz
External Reference	10 MHz
Frequency	
RF Gain	
Maximum Gain HF	25 dB, minimum
Maximum Gain	
V/UHF	± 2 dB
Flatness HF	
Flatness V/UHF	66 dB
Maximum	-
Attenuation HF	2 dB / 6 dB
Maximum	AGC, MGC
Recording capacity	2TB



SIGNAL ANALYSIS

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for Governments across the globe

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SIGNAL ANALYSIS

SIGNAL RECEPTION & ACQUISITION

- HF/VHF/UHF Digital Tuner
- Shortwave Receiver (USB and PCI Based)
- VHF/UHF Scanning Receiver
(USB/PCI/RS232 Based)
- Network Receiver

SIGNAL ANALYSIS AND PROCESSING

- DCME Analysis and Monitoring System
- Advance Digital Spectrum Analyser
- Multi Channel Signal Analysis Station
- Document Analysis System
- Speech Analysis System
- High Speed IP Stream Decoder
- GSM A and A-bis Decoder
- Wide Band Recorder



Strategic Defence Technologies

DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

ANTENNAS

Active LF-HF Antenna
Active HF Antenna
Long Wire HF Antenna
Discone Antenna
X-24B Discone Antenna
Telescopic Antenna
Planar Log-Periodic Antenna
Indoor Active HF Antenna
Sonobuoy Telemetry Antenna
Flexible VHF/UHF Antenna
Broadband Horn Antenna

DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

SIGNAL ANALYSIS

Custom Built Integrated, System Engineering and Turnkey Solution
for Governments across the globe

DIRECTION FINDING

- Wide Band Direction Finding System
- Narrow Band Direction Finding
- High Performance Portable Direction Finding System
- Satellite Geo- Location System

DIRECTION FINDING

Wide Band Direction Finding System

Wide Direction Finding System designed and integrated for monitoring and Direction Finding of wide band signals in 100 kHz-30 MHz Frequency range. The System use Watson-Watt algorithm for direction finding in the HF frequency range and Interferometer set-up for direction finding in the VHF/UHF frequency range for the computation of position data.

The signal processing server in the Wide Direction Finding System provides the Calculation of direction-finding results, Storage and compression of direction finding results, Visualization data for the user like sonogram and spectrum, Azimuth Time, Azimuth Histogram, Power Histogram.

Parameter	Value
Frequency range	100kHz - 30 MHz
Direction-finding method & Direction-finding accuracy	Watson Watt (3-channel), Device error 0.5° RMS
Displays	Sonogram, Spectrum, Azimuth time, Azimuth histogram, Power histogram Measurement by means of graphic cursors, Graphic zoom, Adjustable colour scaling, Adjustable histogram depths, Filtering by means of energy threshold values, frequency, block lists and azimuth block lists
Frequency accuracy	+/- 1x10-7
RF Gain	
Maximum gain	25 dB, minimum
Flatness	± 2 dB
Maximum attenuation	66 dB
Attenuator step size	2 dB / 6dB
Gain control	AGC, MGC
Input impedance	50 Ohm
Remotely control	via TCP/IP or CORBA interface



Strategic Defence Technologies

DIRECTION FINDING

Narrow Direction Finding

iTN-NBDF is designed and Integrated for the purpose of Radio Monitoring and Narrowband Direction Finding. It is equipped with multi-channel panoramic receiver and handheld / Vehicle based direction finder equipments. Station automatically searches for new signals and measure its parameters for referencing to the database to detect threat level. The system automatically calculates the receiver coordinates and plots their position on the digital map in real-time and post-processing modes. The system is capable of automated radiotelephone channel monitoring within separate frequency sub-bands or along the predefined frequency list, recording of the demodulated signal with custom parameters.

Parameter	Value
Operating frequency range	25 - 3000 MHz
Spectrum surveillance scan rate	up to 30 GHz/s
Intermodulation-free dynamic range	75 dB
DF method	Correlative interferometer
Operating angle range	0° ... 360°
Direction finding scan rate (basic set)	300 MHz/s
Sensitivity	1uV
Number of the simultaneously monitored channels	up to 10



SIGNAL ANALYSIS

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DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

DIRECTION FINDING

High Performance Portable Direction Finding System

The WD-3300 Direction Finding system employs the proven pseudo-Doppler method, combined with statistical signal processing, to deliver a cost-effective, yet highly accurate DF solution for government, military, law enforcement and industrial applications. The fully weather-proof antenna system comes with a sturdy tripod and employs 8-pole arrays for HF/VHF and UHF frequency bands for maximum accuracy.

The main user interface of the DF system is designed around a virtual receiver control panel, making it possible to operate the system just like a conventional communications receiver. The circular azimuth display, with a freely adjustable North reference, has an additional "polar mode". This allows the user to assess the signal strength relative to the trace length. An adjustable trace decay time can assist with recognising random reflections. The waterfall and histogram graphics give an instant overview of the signal bearing distribution over time, assisting in validating the quality of the signal azimuth indicators.

Parameter	Value
DF Frequency Range	100 - 1800 MHz optionally extendable down to 2 MHz and up to 3500 MHz (receiver itself has a frequency range 9 kHz - 1800 MHz, extendable to 3500 MHz)
Modulation type	AM, AMS, LSB, USB, DSB, ISB, CW, FM-N, FM-W
Sensitivity	-113 dBm (FM, 400 MHz, 12 dB SINAD)
DF Methods	Pseudo-Doppler and Watson-Watt
DF Accuracy	Minimum 2 degrees RMS (in reflection-free environment)
Total antenna and tripod weight	16.1 kg (35.5 lb)



DIRECTION FINDING

Satellite Geo- Location System

Satellite Identification & Location System is designed for identifying illegal/adversaries satellite transmissions by locating satellite transmitter/VSAT terminal on a digital MAP.

System can be used in conjunction with our satellite and VSAT monitoring system to find the geographic position of the intercepted satellite terminals. The system can be used standalone as well as in conjunction with our Satellite and VSAT monitoring platforms to provide enhanced intelligence to our customer.

Satellite Identification & Location System can also be used to determine the location of both known subscribers and unwanted interferers. Quick and accurate co-ordinates from SILS enable the satellite operator to target "where on Earth" to take action and mitigate damage to their service. We enable our customers to: maintain their satellite communication capacity, offer higher quality of service, lower subscriber complaint levels and identify where denial of service threats are located.

Strategic Defence Technologies

Parameter	Value
Frequency Band	C-band, Ku-band
Carrier Analysis	Interactive
Operating System	Microsoft™ Windows
Reference Signal Required	Yes
Portability	Yes
Power Supply	220VAC/50Hz



SIGNAL ANALYSIS

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SIGNAL ANALYSIS

SIGNAL RECEPTION & ACQUISITION

HF/VHF/UHF Digital Tuner
Shortwave Receiver (USB and PCI Based)
VHF/UHF Scanning Receiver
(USB/PCI/RS232 Based)
Network Receiver

SIGNAL ANALYSIS AND PROCESSING

DCME Analysis and Monitoring System
Advance Digital Spectrum Analyser
Multi Channel Signal Analysis Station
Document Analysis System
Speech Analysis System
High Speed IP Stream Decoder
GSM A and A-bis Decoder
Wide Band Recorder



Strategic Defence Technologies

DIRECTION FINDING

Wide Band Direction Finding System
Narrow Band Direction Finding
High Performance Portable Direction Finding System
Satellite Geo- Location System

ANTENNAS

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ANTENNAS

Active LF-HF Antenna

The AX-81SM antenna is a compact active LF to HF antenna, ruggedized to suit harsh outdoor environments, and particularly suitable for high performance professional and military applications. Designed for surveillance and monitoring, the antenna can be useful anywhere where good performance and reliability are required, and where space is at premium.

The receive-only antenna covers the frequency range of 20 kHz to 30 MHz, or 10 kHz to 50 MHz with somewhat reduced (but still excellent) performance.

Parameter	Value
Type	Active LF-HF antenna monopole
Frequency range	20 kHz - 30 MHz @ 3 dB (excellent performance from 10 kHz to 50 MHz)
Impedance	50 ohm
Connector	BNC (concealed in body)
Active element length	1160 mm (3.8 ft)
Active element diameter	3 mm (0.118 in)
Mounting	1" diameter standard #14 thread
Weight	555 g (1.22 lb)

Active HF Antenna

The AX-81S antenna is a compact active HF antenna, ruggedized to suit harsh outdoor environments, and particularly suitable for marine environments. While it has been designed primarily as a marine antenna, it can be useful anywhere where good HF performance and reliability are required, and where space is at premium. The antenna is receive-only, and is suitable for professional as well as consumer applications.

The antenna covers the frequency range of 2 to 30 MHz, or 300 kHz to 50 MHz with somewhat reduced (but still excellent) performance.

Parameter	Value
Type	Active HF antenna monopole
Frequency range	2 - 30 MHz @ 3 dB (excellent performance from 300 kHz to 50 MHz)
Impedance	50 ohm
Connector	BNC (concealed in body)
Active element length	1160 mm (3.8 ft)
Active element diameter	3 mm (0.118 in)
Mounting	1" diameter standard #14 thread
Weight	550 g (1.21 lb)



ANTENNAS

Long Wire HF Antenna

The AX-05E Long Wire HF Antenna is a low-cost kit containing all the necessary components for a simple but effective fast-deployment shortwave antenna suitable for a wide range of short wave, medium wave and long wave listening applications.

Parameter	Value
Type	Long Wire HF antenna
Frequency range	0.1 - 30 MHz (Approx)
Impedance	50 ohm type
Connector	BNC (concealed in body)
Length	Approx 20 Meter (Approx. 65 ft) when assembled

Discone Antenna

The AX-71C antenna is a compact VHF/UHF omnidirectional receiving and transmitting antenna for professional and consumer surveillance and monitoring applications. The antenna covers the frequency range of 25 to 1500 MHz, offering a typical VSWR figure of less than 1.5:1.

Parameter	Value
Type	Wide-band discone RX/TX antenna
Frequency range	25 - 1500 MHz
Impedance	50 ohm
Connector	UHF
Length of sloping radials	820 mm (32.5")
Length of horizontal radials	280 mm (11")
Overall Height	1585 mm (62")
Weight	1.3 Kg (3 lb)

SIGNAL ANALYSIS

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ANTENNAS

- Active LF-HF Antenna
- Active HF Antenna
- Long Wire™ Antenna
- Discone Antenna
- X-24B Discone Antenna
- Telescopic Antenna
- Planar Log-Periodic Antenna
- Indoor Active HF Antenna
- Sonobuoy Telemetry Antenna
- Flexible VHF/UHF Antenna
- Broadband Horn Antenna

ANTENNAS

AX-24B Discone Antenna

The AX-24B antenna is a compact UHF/SHF omnidirectional receiving antenna for professional surveillance and monitoring applications.

While designed to be entirely general-purpose, the AX-24B UHF/SHF Discone Antenna is especially suitable for use with the G3 series of VHF/UHF receivers, especially for the G315 receivers working in conjunction with the AMFE™ Antenna Multiplexer and Frequency Extender.

Parameter	Value
Type	Wide-band discone RX antenna
Frequency range	400 - 4000 MHz
Impedance	50 ohm
Connector	UHF
Length of sloping radials	162 mm (6.4")
Diameter of Disk element	125 mm (5")
Overall Height	460 mm (18.1")
Weight	503 g (1.1 lb)

Telescopic Antenna

The AX-06B antenna is a compact wide-band omnidirectional receiving antenna for professional and consumer surveillance and monitoring applications. When used with the AX-91M Magnetic Antenna Base, this antenna forms a compact, low-cost antenna system suitable for many types of surveillance and monitoring applications in mobile or stationary environments.

Parameter	Value
Type	Telescopic RX antenna
Frequency range	20 - 1800 MHz
Impedance	50 ohm
Connector	BNC
Maximum Length	604 mm (23.8")
Minimum Length	162 mm (6.4")
Overall Height	460 mm (18.1")
Weight	75 g (3 oz)



Strategic Defence Technologies

ANTENNAS

Planar Log-Periodic Antenna

The AX-31C antenna is a compact VHF/UHF log-periodic directional antenna, a successor to the popular AX-31B antenna, with improved performance and reduced weight and dimensions, as well as additional packaging options: an outdoor mounting version and a hand-held one.

Parameter	Value
Type	Log-Periodic Dipole Array
Frequency range	290 - 2200 MHz
Impedance	50 ohm (typ.)
Polarization	Horizontal or Vertical (Depending on mounting)
Connector	SMA
Power	9 V @42mA
VSWR	1.7:1
Transmit Power	5 W Max
Weight	155 g (5.5 oz)

Indoor Active HF Antenna

The AX-17C is a miniature indoor active HF antenna suited for applications where it is not possible to use conventional large outdoor antennas, and where loop antennas are either not available or not practical due to their large size.

Parameter	Value
Type	Active Ferrite Antenna
Frequency range	0.1 - 30 MHz
Impedance	50 ohm
Connector	SMA Female
Supply Voltage	12 VDC (min.10V, Max.14V) @50mA
Pattern	Directional
Weight	233 g (8.40 oz)

SIGNAL ANALYSIS

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ANTENNAS

- Active LF-HF Antenna
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- X-24BDiscone Antenna
- Telescopic Antenna
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- Flexible VHF/UHF Antenna
- Broadband Horn Antenna

ANTENNAS

Sonobuoy Telemetry Antenna

The AX-61S antenna is a rugged, broadband quarter-wave ground plane omni-directional antenna suitable for military and commercial marine use, in particular in sonobuoy telemetry applications.

Parameter	Value
Type	Quarter-Wave Ground Plane
Frequency range	135 - 175 MHz
Power Handling	300 W
Polarisation	Vertical
Connector	N-Type Female
VSWR	1.5:1 (typ.)
Pattern	Omni-Directional
Weight	2 Kg (4.4 lb)

Flexible VHF/UHF Antenna

The AX-07B is a small, rugged antenna designed for reception in the VHF/UHF bands. The flexible antenna is encapsulated in a weatherproof rubber sheath resistant to chemical corrosion, abrasion, ozone, salt water and ultra violet radiation, making it ideal for outdoor applications.

Parameter	Value
Type	Flexible RX Broad-Band Antenna
Frequency range	100 - 900 MHz
Impedance	50 ohm
Connector	BNC Male
Operating Temperature	-10°C to 60°C
Length	160 mm (6.3")
Weight	30 g (1 oz)

Broadband Horn Antenna

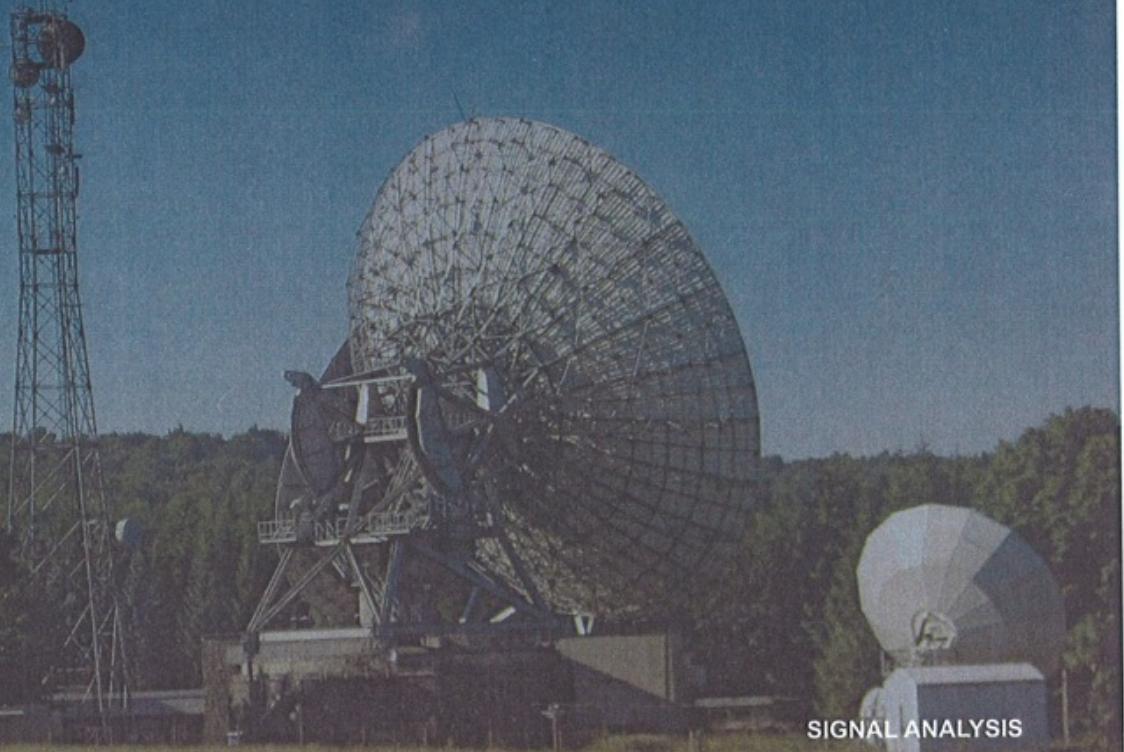
The AX-48H antenna is a broad-band open-ended rectangular horn waveguide antenna, ideally suited for surveillance and monitoring, direction finding, EMI testing and other microwave applications.

The linearly polarized antenna features high and consistent gain over a wide frequency range, is lightweight and small-sized.

Parameter	Value
Type	Broad-Band Horn Waveguide
Frequency range	2 - 18 GHz
Polarization	Linear
Impedance	50 ohm
Connector	SMA
Operating Temperature	-20°C to 80°C
Size	104 x 78 x 127 mm (4.09" x 3.07" x 5")
Weight	0.37 Kg (0.82 lb)



Strategic Defence Technologies



SIGNAL ANALYSIS

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COMMUNICATION SECURITY

TERRESTRIAL

Integrated Voice, Fax and Data Encryptor
Link Encryptor

RADIO

VHF/UHF Digital Encryption Module



Strategic Defence Technologies

SATELLITE PHONE

Satellite Phone Encryptor

GSM

Secure GSM Phone

TERRESTRIAL

Integrated Voice, Fax and Data Encryptor
Link Encryptor

COMMUNICATION SECURITY

Custom Built Integrated, System Engineering and Turnkey Solution
for Governments across the globe

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TERRESTRIAL

Integrated Voice, Fax and Data Encryptor
Link Encryptor

TERRESTRIAL

Integrated Voice, Fax and Data Encryptor

The Voice Data Fax (VDF) encryptor is a powerful encryption solution for security in the modern communication environment. Simple to operate, the VDF provides confidence to customer for making secure telephone calls; sending or receiving sensitive faxes and secure data transfer.

The VDF uses a 128 or 256-bit AES encryption algorithm. Alternatively, a unique, customized algorithm can be installed to meet specific government requirements. Key management is an asymmetric key exchange with optional PIN for enhanced security. Customers can program up to 12 keys to define their security environment.

Parameter	Value
Encryption solution	Voice, Data, Fax
Encryption Algorithm	Proprietary, T-DES and AES
Compression	4,800 bps full duplex, proprietary coding algorithm
Key Management	Proprietary bilateral key exchange
Synchronization	100-millisecond delay, satellite delay capable
Protocols:	
PSTN/PABX	V.32/V.32bis, 4800 bps to 14,400 bps
Fax	V.29, 7200 bps or 9600 bps; V.27ter, 2400 bps or 4800 bps V.32bis,
Data	4800 bps to 14,400 bps
External Key Load	2 customer-generated net keys, up to 99 updates per key
Connector	RJ-11 socket, RS232 data port (DB9 Socket)
Power supply	External power pack, 12 VDC, 1 Amp typical in encrypted mode
Weight	650 grams (1.1 lbs) including battery



TERRESTRIAL

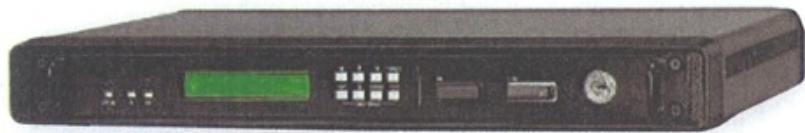
Link Encryptor

The STN - 650 is a 19" rack mounting encryptor providing full-duplex, synchronous link encryption for data rates up to 45 Mbps. All types of applications such as classical link encryption or dial-up systems within public or private networks are supported.

The STN - 650 works in protocol-dependent (parts of the line protocol are not encrypted) as well as in protocol-independent (all data are encrypted) operating mode. With exchangeable data interfaces the STN - 650 is adaptable to all common interface specifications – such as ITU-T G.703 (e.g. digital hierarchies E3 and T3) or V-recommendations (e.g. V.11 and V.35) – covering a universal application range even in changing or growing communication networks.

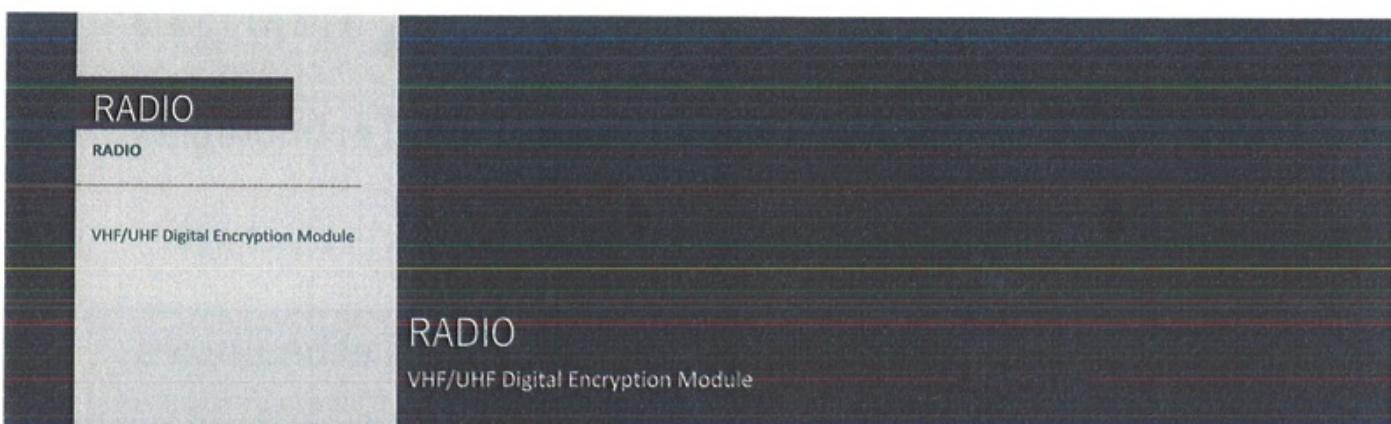
Strategic Defence Technologies

Parameter	Value
Encryption solution	Voice, Data, Fax
Data rates	64 kbps, 512 kbps, E1, E3, T3, STM1
E1/T1 Interface	ITU-T1) G.703/G.704 (E1, T1)
E3/T3 Interface	ITU-T G.703/G.751/G.753 (E3), ITU-T G.703/G.832 (E3, ATM), ITU-T G.703/G.752 (T3)
Capacity of Security Modules	Security Module SM 1-8, Primary Master Keys for up to 50 links, Secondary Master Keys for up to 7 User Groups, Security Module SM 1-32, Primary Master Keys for up to 200 links, Secondary Master Keys for up to 7 User Groups
Reliability	MIL-STD-217F, at tamb = 25°
MTBF	> 30'000 h
Power Supply	AC Mains: : 85 ... 264 VAC, Frequency: 47 ... 440 Hz DC: 18 ... 60 VDC, Power consumption: 20 VA



COMMUNICATION SECURITY

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VHF/UHF Digital Encryption module offers the ultimate in radio communication security. Our VHF,UHF Digital Encryption modules, which can be easily fit into different radio of various manufacturers to ensure that all communications remain private and highly confidential. VHF,UHF Digital Encryptor module is loaded with 256 Bit AES (Advanced Encryption Standard).

These plug-in modules are available for easy installation into most common and well known makes private mobile (PMR) or two-way radios including Motorola, Icom, Vertex, Tait, Kenwood and others. For radios without a plug-in facility socket, our wire-in module can be solder wired into the transceiver.

Parameter	Value
Bandwidth	400 to 2600 Hz
Channel modulation	8-FM
Subcarrier frequency	1350 Hz
Compensation of frequency drift	±30 Hz, 1 Hz/sec
Receive transmit delay	not more 1.5 sec
Power supply	5 to 12V
power consumption	not more 1 Wt



SATELLITE PHONE

Satellite Phone Encryptor

The Satellite Phone Encryptor is designed to provide security for Thuraya, Inmarsat and Globalstar satellite communication. Satellite Phone Encryption system is a high-grade hardware based encryption product that is flexible, diverse, portable and easy-to-use. Satellite Phone Encryptor is available in different models for different satellite terminals such as Thuraya, Inmarsat and Globalstar.

The Satellite Phone Encryption System encrypts voice communication when connected to satellite communication terminal. The Satellite Phone encryptor is a compact, battery or A/C powered portable security system that easily interfaces with digital cellular telephones and satellite communication terminals.

Strategic Defence Technologies

Parameter	Value
Supporting Satellite	Iridium, Inmarsat, Thuraya, Globalstar etc
Frequency Band	C-Band , Ku-Band, L-band
Encryption algorithm	128 bit AES
Interface	RS-232
Power Supply	230 VAC, 50 Hz



COMMUNICATION SECURITY

Custom Built Integrated, System Engineering and Turnkey Solution
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GSM

GSM

Secure GSM Phone

GSM

Secure GSM Phone

Secure GSM Phone has been designed to provide end-to-end secure communication across the GSM network. Secure GSM Phone is software application which can work with any mobile having Symbian operating system. Secure GSM Phone uses AES 256 bit symmetric data protection algorithm encryption algorithm, which is currently the highest security standard worldwide. Secure GSM Phone provides complete end to end protection, from phone to phone, for both audio and text messages. Secure GSM Phone is designed for easy operation and no security knowledge is required by the user. GSM Phone encrypts the information and sent it automatically without any need for user interaction.

Parameter	Value
Operating System	Symbian
Encryption Algorithm	AES 256 bit symmetric data protection algorithm
Supporting Model	All commercial Nokia cellular phones.
keys generation	RSA 1024 / AES 256 encryption keys on the phone
key exchange algorithm	4,096 bit Diffie-Hellman
GSM network	900/1800/850/1900MHz which supports the data call (CSD)



Strategic Defence Technologies

```
float w;
if ((z.r == 0.0) && (z.i == 0.0))
    c.r=0.0;
    c.i=0.0;
```

```
} else {
```

```
w = sqrt((z.r*2 + z.i*2) / 1.0);
if (z.r == 0.0)
```

COMMUNICATION SECURITY

Custom Built Integrated, System Engineering and Turnkey Solution
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79.

space

sym

a4

COMMUNICATION JAMMING

RCIED

Briefcase Jammer
Man Pack Jammer
Vehicular Jammer

RF

FM Broadcasting Jammer
Radio Reconnaissance and Jamming System
UAV Based Jamming Modules



Strategic Defence Technologies

SATELLITE

VSAT Integrated Jamming System
GPS Jammer
Cellular Satellite Phone Jammer

GSM

Cellular Satellite Phone Jammer

RCIED

Briefcase Jammer
Man Pack Jammer
Vehicular Jammer

COMMUNICATION JAMMING

Custom Built Integrated, System Engineering and Turnkey Solution
for Governments across the globe

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RCIED

Briefcase Jammer

Man Pack Jammer

Vehicular Jammer

RCIED

Briefcase Jammer

A Briefcase RCIED Jammer defends stationary or mobile users during explosive detection, bomb detection, and bomb disposal circumstances. As a countermeasure system, its technology was designed with the aim of countering groups who commit acts of terrorism, assassination, and criminal murder. Portable Briefcase Jamming System gives the user edge against radio-controlled weapons. Briefcase Jammer acts as a mobile transmitting station, blanketing the vicinity to defend against invisible caches of ammunition and remote controlled bombs (used in ambush or street crime attacks). Dangers posed from tactical operation commands (armed with modern commercial and military radio triggers or communications) can now be challenged.

Parameter	Value
Frequency Band	26-2020 MHz
Interference type	White Noise
Supply Voltage	12.6 ± 2V
Duration of continuous operation	24 Hrs
Signal Source	Special Generator
Time of operation with Internal Battery	20 Minutes
MTBF (Life Span)	8 years without Battery



RCIED

Man Pack Jammer

Strategic Defence Technologies

Manpack jammer is portable bomb jammer built into backpack configuration, designed for the protection of vehicles in march (in columns and individually) and personnel / from radio RCIED explosion in dangerous areas by electronic counter measures. Manpack Jamming System helps prevent radio transmission that are used to activate radio controlled bombs, radio fired mines and remote controlled improvised explosive devices (RCIEDS).

Parameter	Value
Frequency Band	20-2600 MHz
Interference type	White Noise
Power Supply Source	Accumulator Batteries, Type GP-1214 Or car Network
Power Supply Voltage	12.6 ± 2V
Jamming Mode	Barrage
Power Output	45 Watts



COMMUNICATION JAMMING

Custom Built Integrated, System Engineering and Turnkey Solution
for Governments across the globe

RCIED

Briefcase Jammer

Man Pack Jammer

Vehicular Jammer

RCIED

Vehicular Jammer

The RCIED Jammer is a vehicular RF Jammer that uses digital interference based on frequency synthesizer to defeat the remote controlled improvised explosive devices or an RCIED. The power output of the RCIED Jammer can be increased from 100W to 120W, offering increased saturation of the electromagnetic Spectrum.

The Vehicular Jamming system is supplied in a rugged field transportable carrying cases, enabling it to function during transit inside of a vehicle, outside of a vehicle, or on fixed platform.

The Vehicular Jammer consists of NSG unit, RCP unit, Accumulating unit and five different frequency sub band consisting transmitting module and antenna.

NSG Unit: NSG unit is designed to generate the special signals of HF, VHF and UHF frequency range. NSG unit consists of nine noise generators in the spectrum section that form a noise signal spectrum in the corresponding frequency sub-bands.

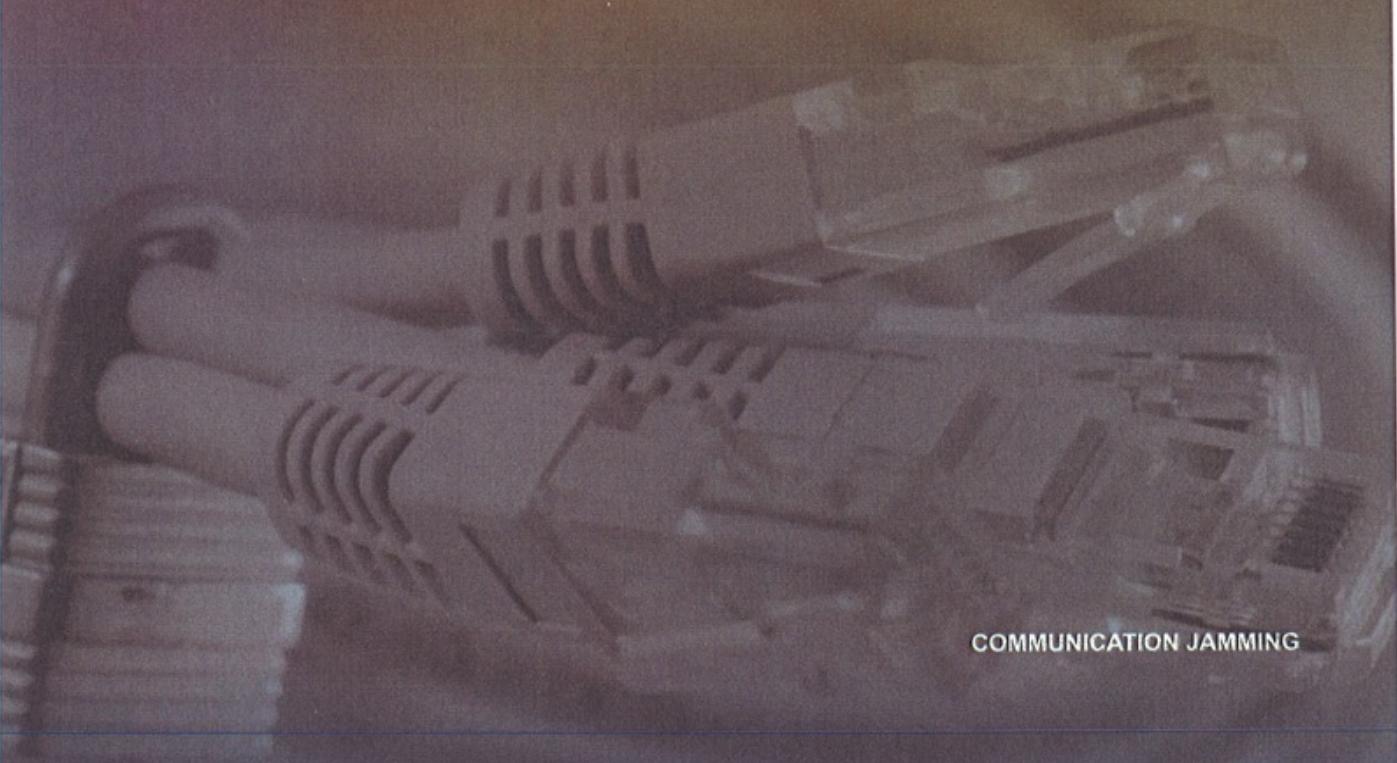
RCP Unit: Remote Control Panel (RCP) Unit is intended for product operation, remote management and diagnostic With foolproof installation and trouble free operation, the product offers rapid field deployment on both mobile and fixed platforms to defend the users in hostile and uncertain environments.

Parameter	Value
Frequency Band	20-2600 MHz
Interference type	White Noise
Supply Voltage	11.5 to 14.5 V On Board Supply or From an Accumulator Battery with $12.6 \pm 2V$
Duration of continuous operation	24 Hrs
Remote Control	With RCP Unit
Power Output	100 120 Watts





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COMMUNICATION JAMMING

RCIED

Briefcase Jammer
Man Pack Jammer
Vehicular Jammer

RF

FM Broadcasting Jammer
Radio Reconnaissance and Jamming System
UAV Based Jamming Modules



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SATELLITE

VSAT Integrated Jamming System
GPS Jammer
Cellular Satellite Phone Jammer

GSM

Cellular Satellite Phone Jammer

RF

FM Broadcasting Jammer
Radio Reconnaissance and Jamming System
UAV Based Jamming Modules

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87.

RF

FM Broadcasting Jammer

Radio Reconnaissance and
Jamming System

UAV Based Jamming Modules

RF

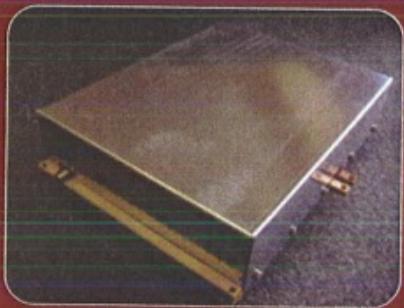
FM Broadcasting Jammer

The FM Jammer (STN-FMJ) is designed to prevent FM radio reception in a designated area. It is a power full jamming system, designed specifically for military/police deployment at large public gatherings, riots, marches, anti-government protests, rallies, etc. to jam the FM radio reception.

Based on advanced jamming technology, the STN-FM transmits RF signals, which block the communication between the FM broadcasting station and FM receiver, actively jamming FM frequencies.

The STN-FMJ is powered by a high efficiency power supply unit which is fully protected from over-voltage, over-current, and temperature variations. The complete system is rack mounted on 19" racks. The STN-FMJ can also be customized as per the customer requirement.

Parameter	Value
Frequency Range	87.7 - 107.9 MHz
Interference type	White Noise
Total RF output power	1100 W
Power consumption	1.8 kW
Duration of continuous operation	24 Hrs
Power Supply	170-250V, 50Hz +/- 5%



RF

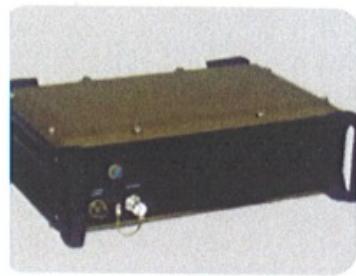
Radio Reconnaissance and Jamming System

The threat from Radio Controlled Improvised Explosive Devices (RCIED) has increased because of the wide availability of commercial radio-control equipment that can easily be adapted as IED triggers.

Radio Reconnaissance and Jamming Station has been designed to search the frequency of interest and if required the same can be used to jam the targeted frequencies. When operator finds any signal of interest, then system automatically measures and stores Signal centerl frequency, Signal spectrum, Detected signal source direction, Power and time parameters of the signal, including those of packet signals and the Signals with frequency hopping of up to 300 hops per second. The Jammer can then be used to jam the detected signal.

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Parameter	Value
Frequency Range	25 to 1000 MHz
Scanning Speed with simultaneous Direction Finding	Not Less than 1750 MHz/Sec.
Modulation	AM, FM, CW, FSK, ASK, PSK
Audio Monitoring	Yes
Frequency hopping algorithm	chasing
Hops	Upto 300 Hops/seconds
Power Supply	220VAC/50Hz



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FM Broadcasting Jammer

Radio Reconnaissance and
Jamming System

UAV Based Jamming Modules

RF

UAV Based Jamming Modules

UAV Based Jamming Modules consists of small size jamming transmitters which can be mounted at remotely controlled flying vehicles, artillery shells, portable camouflage casings, parachutes and Para planes and are used for the protection of law enforcement and defense organisations to safeguard from radio controlled explosions. This versatile Jammer can also be used to prevent the information leakage through radio eavesdropping devices. Versatile Jamming Set covers 20-2.2 GHz frequency range and consist of six transmitters set operating on different frequency with different power.

Parameter	Value
Frequency Range	20-2.2 GHz (Six Bands)
Interference type	White Noise
Supply Voltage	$12.6 \pm 2V$
Signal Source	Special Generator
Power Output	10 to 25 Watts





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COMMUNICATION JAMMING

RCIED

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SATELLITE

VSAT Integrated Jamming System

GPS Jammer

Cellular Satellite Phone Jammer

GSM

Cellular Satellite Phone Jammer

SATELLITE

VSAT Integrated Jamming System

GPS Jammer

Cellular Satellite Phone Jammer

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SATELLITE

VSAT Integrated Jamming System

GPS Jammer

Cellular Satellite Phone Jammer

SATELLITE

VSAT Integrated Jamming System

VSAT Jamming system is designed and integrated for jamming of VSAT Terminals by blocking the DOWNLINK signals of a particular frequency of interest. The VSAT Jamming System caters to jam VSAT terminals operating in C or Ku band. Power of jamming signals can be adjusted up to 3db (or more) higher than the received signal strength at VSAT antenna feed.

This VSAT Integrated Jamming System consists of a white band noise generator, limiting filter, Amplifiers and converters. The VSAT Jammer can be positioned on Land (Vehicle, Shelters, Telecom Towers etc.), Air (Aerostats/Balloons) or in sea (Cargo Vessels/Boats). VSAT Jammer consists of a white band noise generator, limiting filter, Amplifiers and converters.

Parameter	Value
Interference type	flat top white noise
Jamming link	downlink signals
Jamming Band	KU Band and/or C Band VSAT/ TVRO
Jamming Area	20km x 20km (This is an approximate idea, it can vary from terrain to terrain)
Antenna Polarization	circular



SATELLITE

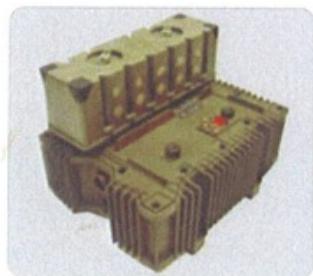
GPS Jammer

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GPS Jammer is designed to jam the GPS navigational system by radiating interference signal. GPS Jammers radiates barrage radio-jamming and render the GPS services ineffective or introduce unacceptable error in their accuracies.

GPS Jammer cover the GPS frequency range from 1100MHz to 1580MHz by using three different transmitter modules works in the frequency range of 1100 to 1230 MHz (Military GPS), 1230 to 1350 MHz (Military GPS), and 1520 to 1580 MHz (GPS). Each transmitter module has separate antenna. GPS jamming system offers flexibility for the operator to control the transmitting module from their local control panel as well from remote control. GPS Jammers is designed as per the MIL81OF NATO Standard and has compulsory air-cooling system, indication system and automatic protection system.

Parameter	Value
Frequency Range	1100 MHz to 1580 MHz
Frequency Band	1100 MHz to 1230 MHz (Military GPS) 1230 MHz to 1350 MHz (Military GPS) 1520 MHz to 1580 MHz (GPS)
Power Output	25 Watts



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SATELLITE

VSAT Integrated Jamming System

GPS Jammer

Cellular Satellite Phone Jammer

SATELLITE

Cellular Satellite Phone Jammer

Satellite phone jamming system is intended for blocking Global Mobile Personal Communications by Satellite (GMPCS). The GMPCS include Thuraya, Iridium, ISAT, ACeS, Inmarsat, Global Star etc. The Jammer provides a definitive communication blocking solution in any area where cellular and satellite systems need to be controlled. Jammer can be deployed in variety of applications depending upon the scenarios.

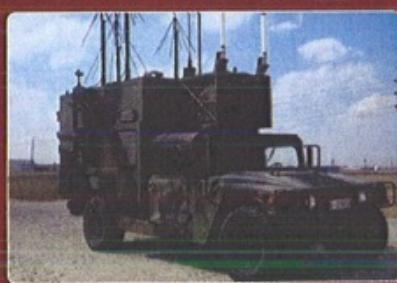
Cellular satellite phone Jammer is designed to for the jamming of information, which is intended for the control of the terrorist and diversionary groups and also of illegal armed detachments.

Jammer provides the ultimate solution in any area where cellular and satellite communications need to block. Jammer can be deployed in variety of applications depending upon the scenarios.

Cellular Satellite Phone Jammer transmits adequate power radio signals to cut-off communications between cell phones/Satellite Phones and cellular base-stations/Satellite, by jamming the cell phone/Satellite phone signals in the operating frequencies of CDMA, GSM, E-GSM, DCS, PCS, UMTS2100, Thuraya, Iridium, Inmarsat and Globalstar. It does not interfere with any communications other than cellular and Satellite within the defined regulated zone.

Upon activating Cellular Satellite Phone Jammer, all idle phones will indicate "NO SERVICE". When Cellular Satellite Phone Jammer, is turned off, all phones will automatically re-establish communications and provide full service.

Parameter	value
Operating Frequency Bands	800 to 2500 MHz
Type of Radio Lines to be jammed	GSM-800, GSM-900, GSM-1800, GSM-1900, UMTS2100, Thuraya, Iridium, Inmarsat, Global Star L/S Band
Radio Jamming sector	360 degrees
Number of simultaneously Jammed Channels	7
Frequency band change overlapped by interference	From 80 to the whole operating band
Amplifier Power of Jammer	100-200 Watts



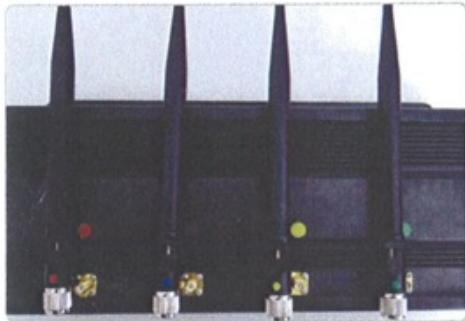
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Cell Phone Jammer

The Tri-Band Cell Phone Jammer can jam cell phones that operate in any frequency. It is perfect for a restaurant, movie theatre, prison, or government office.

The Tri Band Cell Phone Jammer is a sophisticated high power desktop cellular phone jammer. It can be used for all the worldwide network frequency system. Even it can be adapted to the vehicle directly by the car's current design.

Parameter	Value
Covert interface frequency	CDMA800:850-894 MHz GSM900:925-960 MHz GSM1800-1990:1805-1990MHz 3G: 2110-2170MHz
Total output power	10W
Jamming range	Radius 10 ~ 40m, The jamming Radius still depends on the strength signal in given area
Power Supply	12-24V; with Car Adaptor, could be used in car directly
Full Set Weight	2.8KG



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