Covert Surveillance System
Overview
- What is spread spectrum?
- What differentiates the ATS System?
- General characteristics
- Characteristics, capabilities, use and maintenance
  - Model 1250 Transmitter and ancillary equipment
  - Model 1245 Monitor System
  - Model 1225 Hand Held Transmitter
- Operational Scenarios
- General care, maintenance and storage
- Other devices and equipment
- Questions and answers

What is Spread Spectrum?
- Generally a wideband signal
- Bandwidth much wider than message
- Low Probability of Interception (LPI)
- Low Probability of Detection (LPD)

What Differentiates the ATS System?
- Bandwidth and chip rate is much greater
  - virtually non-detectable
- Nearly instantaneous synchronization
  - No lost words or syllables
  - More robust performance in multi-path environment i.e buildings, city, etc.
- High quality audio
- Rated power output over life of battery
  - No sloping power output
  - No clipping

General Characteristics
- Voice privacy
  - Digital system
- High quality audio - 56 KBps CVSD
- Flat audio response
- No special batteries
- Terminated inputs
- All equipment compatible
- Relatively inexpensive
- Versatile
  - Data is scrambled

Characteristics of the Model 1250 Transmitter
- Single transmitter - multiple carriers with integral antenna
- Standard batteries
- Internal microphone
- Capability to use externals
  - Microphone
  - On/Off switch
  - Antenna
  - Power converters
- Transmits a battery low bit
- Does not heat up

Model 1250 Installation Considerations
- Internal microphone is very sensitive
  - Careful of wind conditions
  - Careful of clothing
- External connectors should slide on easily
- Face antenna away from body

Insure proper selection of code and channel
Always use fresh batteries
Avoid cheap batteries
Insert battery pack in proper direction
Turn unit off while inserting/removing battery pack

Model 1245 Monitor System

Self contained unit can be operated in any position with case closed
AC, DC, internal batteries
Unit will determine operating power
Supports simultaneous charging and operation
Internal batteries support in excess of 8 hours receiving and recording
Recorder operates from Model 1245 power
Manual or automatic control
Three head Marantz - common to LEA's
Built in antenna's - can use external for "better" reception
Internal speaker
Can be turned off
Headphone output
Line outputs for dubbing
Meters and indicators
Receives and displays battery low condition (internal and transmitter)

Model 1245 Installation Considerations

Power On
Unit performs self test
Select channel and code
Select recorder control
Manual or Automatic
Select Antenna
Internal or External

Model 1225 Hand Held Transmitter

PTT walkie talkie style
Internal Microphone sensitive
Need not be close to mouth
Should be held away from face/body when transmitting
Body worn operation: It must be used only for monitoring purposes
ONLY with Earpiece option
External microphone option - Must be kept away from body - approximately 20 cm when transmitting
Common battery
No squelch
Power LED flashes when battery low

Safety Considerations (Model 1225)

Human exposures to RF Electromagnetic field - Biological effect: it occurs when a change can be measured in a biological system after introduction of some type of stimuli. Biological effect does not necessarily suggest the existence of a biological hazard.

A Copy of the following document will be given to the trainee for further reading: OET bulletin 56 4th edition: August 1999 Questions and answers about biological effects and potential hazards of RF electromagnetic fields. This document can be found at the FCC web site www.FCC.gov.

Consequence of employment
Awareness of potential for exposure
Exercise control over the exposure - Stop transmitting
SAR (Watts per kilogram): rate of energy absorbed by (dissipated in) an incremental mass contained in a volume of dielectric materials such as biological tissues.

SAR spatial peak is 8 W/kg as average over 1 gram of tissue for the while body and 20 W/kg for the hands, wrists, feet and ankles as average over 10 gram of tissue.

Potential to exceed SAR limits: Generally EIRP > 400-500mW

1225's EIRP with a 0 dBi(best case) antenna is about 900mW.

Minimise exposure based on the mode of operation, usage, and nearby environment (avoid transmitting in the vicinity of large metallic structure).

Keep antenna away from body when transmitting

Keep transmit durations short - approximately 1 and 1/2 minutes over a 15 minutes interval

Operational Scenarios

Direct

Listening post only

Monitor

Monitor and communication

Repeater Operation

Channel C

General Care, Maintenance and Storage

Care

No alignment procedures

Charge batteries

Maintenance

Recorder can be removed for servicing

Internal battery (Model 1245) can be removed and replaced

Storage

Sensitive equipment should be secured

Should not divulge frequency

FCC Identifiers

Model 1250 - OHA1250-044502PAT

Model 1245 - Part 15, Subpart B

Model 1225 - Certification not complete

Only to be used with provided antenna

Other Devices and Equipment

Model 1230 Concealment

Model 1240 Repeater/Transceiver

Model 1260 Key Loader

Key Loader Adapters

Power Converters

Questions or Help

For operational assistance, technical support, questions

call ATS directly at 1-888-327-0107

ask for Rick or Tony

email to ajc_ats@hotmail.com