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DESCRIPTION: DSS-950-TX
500mW Digital Spread Spectrum
Audio Surveillance Transmitter
USER'S MANUAL

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DSS-950-TX
500 mW Digital Spread Spectrum Audio Surveillance Transmitter User's Manual

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Description

The DSS-950TX is a 900 MHz, low power, spread spectrum audio surveillance transmitter used for law enforcement applications. The transmitter employs digital modulation with direct sequence spread spectrum on one of three factory-selected channels in the 902-928 MHz range.

The DSS-950TX has a power output of 500mW to an integral patch antenna built into the housing, which meets the technical and safety requirements of FCC Part 15.203. This device is compatible with the DTC Communications DSS-900-KT Audio Surveillance System. Range will be approximately 2 to 3 times that of a 50 mW unit.

Two microphone modes are supported, internal and external. The microphone audio is processed by an amplifier equipped with an automatic gain control (AGC) which may be turned ON or OFF with an external switch. Microphone audio is secure; processed digitally with a continuously variable slope delta-modulation (CVSD) speech coder at a rate of 32 kbps.

The DSS-950TX is a portable device; DC powered by three AA batteries, which supply a nominal 4.5 VDC. A step-up switcher is employed, which maintains the full half-Watt of output power over the entire life of the batteries. Alkaline batteries will provide more than two hours of operating life and Lithium-Ion AA's will provide more than four hours.

The DSS-950-M is a flying lead module based on the same device, but is made roughly half the size. This module operates from an external 10 – 32 VDC via stripped and tinned leads and is designed for use with larger battery packs and vehicular power. The antenna is also integral to this unit.

Using the Transmitter

Keep in mind that the TX patch antenna must be facing *away from* the agent's body to work properly. The patch antenna is housed under a black plastic-like cover at the top of the unit. There is no external antenna on this unit. This is a high current drain device (500 mA); always replace the batteries before using the unit.

- He internal top-fire mike is located between the two slide switches. It is active unless an external mike is plugged into the locking subminiature connector. Two microphones are supplied with the DSS-9500; they differ only in cable length and color. External microphones may be extended up to 100 feet from the transmitter.

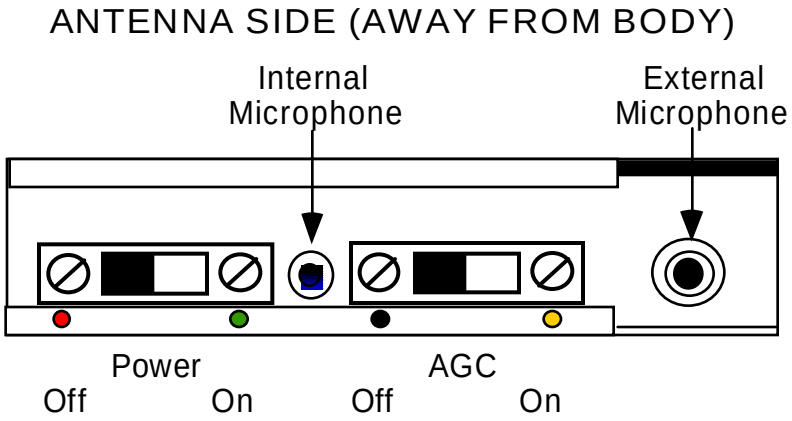


Figure 1 TX Control Panel

Using the Transmitter (Cont.)

CAUTION:

ALWAYS MAKE SURE THAT THE PLASTIC ANTENNA COVER IS FACING OUTWARDS; AWAY FROM THE TORSO, IN ORDER TO MAXIMIZE RANGE AND MINIMIZE RADIO FREQUENCY ABSORBPTION INTO THE BODY. THIS DEVICE HAS BEEN TESTED AND HAS BEEN FOUND TO BE WITHIN SAFE LEVELS FOR LOCALIZED SPECIFIC ABSORPTION FOR UNCONTROLLED ENVIRONMENT/GENERAL POPULATION EXPOSURE WHEN USED PROPERLY.

1. Start the surveillance session with fresh AA batteries. Duracell™ MN1500 or Energizer™ E91 LR6 AM3 or Ultra™ batteries are all good choices for Alkalines. The Energizer L91 Lithium will provide better than double the life of the best Alkalines. Slide the battery door open to insert the batteries. (Figure 2).

2. The TX unit is labeled with its frequency.

3. Set the CHANNEL SELECT on the RECEIVER to 1 for 905.5 MHz, 2 for 915 MHz and 3 for 924.5 MHz. Always check that the receiver is set on your frequency. At this power level, the transmitter may bleed into an adjacent channel and cause a false indication when the transmitter is very close to the receiver.

4. Turn the TX ON (Green Dot) using the slide switch at the top of the unit.

5. Set the AGC switch to ON (Yellow Dot). This provides the optimum audio at the RX. Turn the AGC OFF (Black) if a loud, interfering noise, such as a jukebox, is near the microphone.

6. Mount the transmitter as high on the torso as possible, to maximize range and performance, especially when the agent may enter a vehicle.

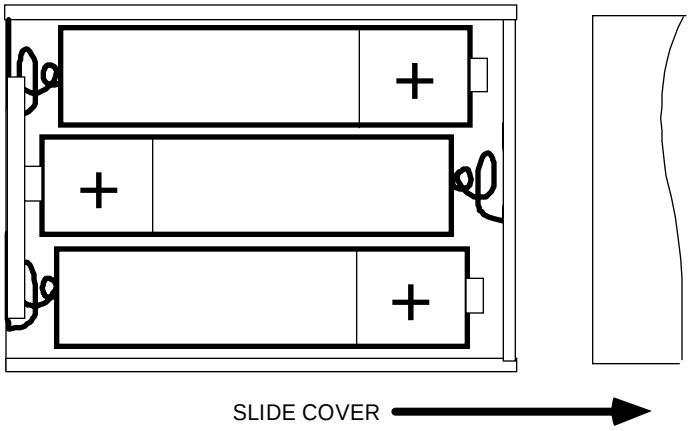
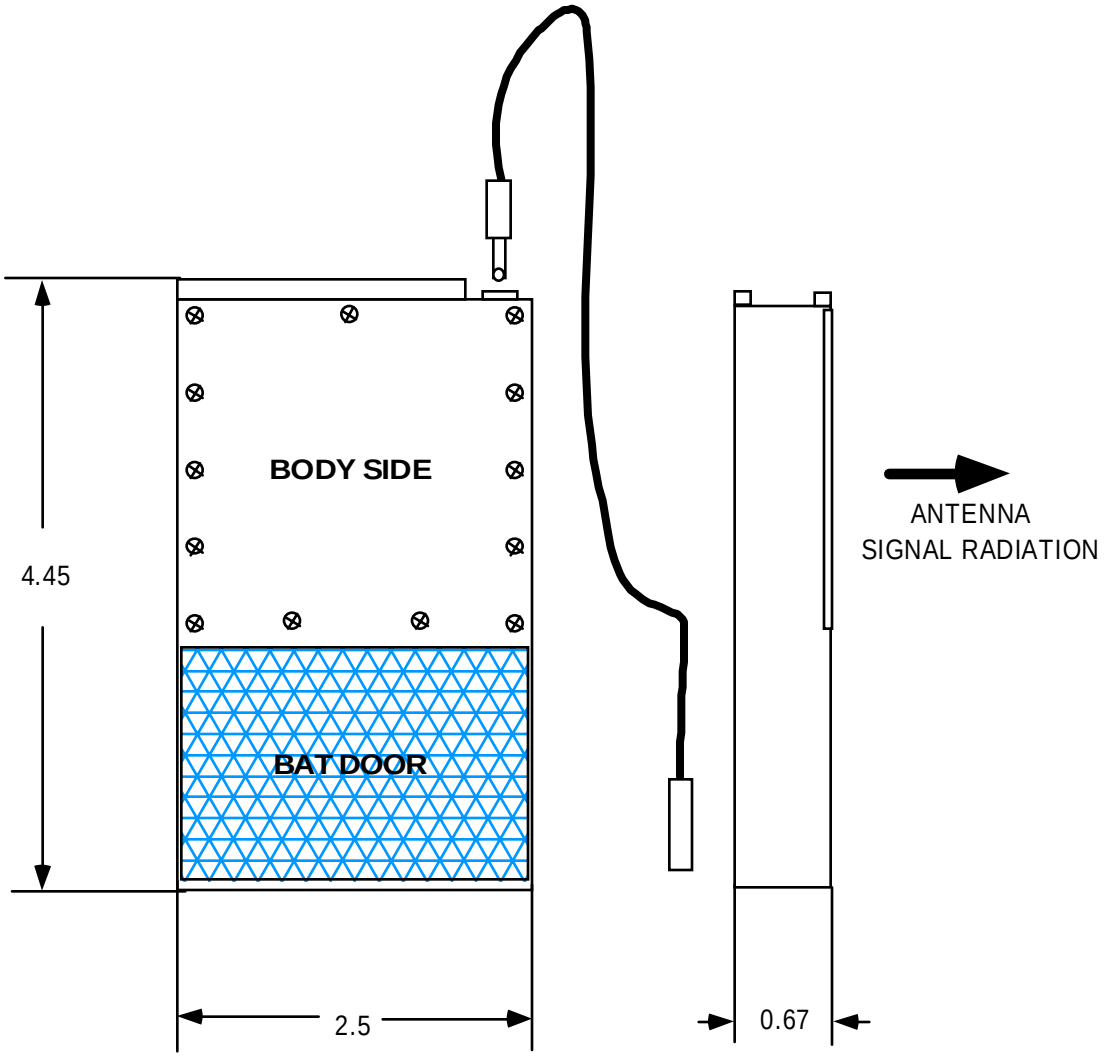


Figure 2 Battery Door

Specifications

Input:	FET-Electret Mic. (internal and external with 24“ cable-auto. switching)
Controls:	Power ON/OFF, AGC ON/OFF
Antenna:	Linear Patch
Power Output:	500 mW
Audio Coder Rate:	32 kbps
AGC Range	45 dB
Modulation:	Direct Sequence Spread Spectrum
Chip Rate:	704 kilochips per second
Processing gain:	Greater than 10 dB
Spreading Code	Proprietary 37-chip code (Factory fixed)
Spurious Radiation	Greater than -45 dBc:
Frequencies:	A = 905.5 MHz; B = 915.0 MHz; C = 924.5 MHz (3 Channel capability; single channel factory selected)
Battery:	4.5 VDC with 3 AA batteries
Battery Life:	2 Hours Minimum Alkaline, 4 Hours minimum Lithium
Dimensions:	2.5” X 4.45” X 0.67”
Weight:	10 oz including external microphone and batteries



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