

Time Difference of Arrival (TDOA) Emitter Location System

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COMMUNICATIONS PROGRAMS DIVISION

Description

The Adams-Russell Time Difference of Arrival (TDOA) System is a high speed correlation based system that quickly and accurately determines the location of RF emitters. Already deployed for narrow band VHF/UHF signals, the system will locate all types of signals from VHF through microwave with appropriate receivers. In a typical configuration, three receiving platforms composed of omnidirectional antennas, high quality surveillance receivers and a delay distortion equalization/digitization unit are used to acquire signals of interest, adaptively remove receiver induced delay distortion and transfer the data via a digital down-link to the master control station for processing. At the master station, the received data from each station is digitally correlated with the data from the other stations to find the time difference of arrival. Finally the lines of position corresponding to each TDOA measurement are combined to locate the emitter. Alternate configurations allow the location of emitters with only two receiving platforms.

Features

High Accuracy

Locations to thirty (30) meters at thirty (30) miles in two (2) seconds for narrow band UHF/VHF emitters, better accuracies at wider bandwidths.

Independent of Signal Type

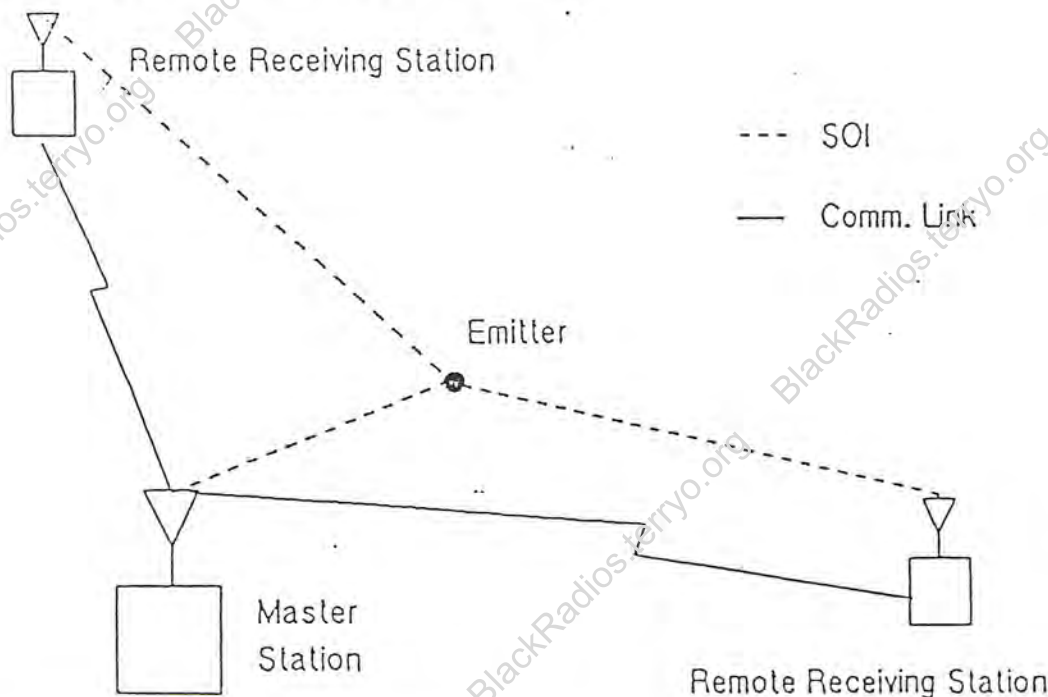
Correlation is performed on IF signal independent of modulation type.

SNR

Effective down to 0dB SNR

Applications

- Test Range Monitoring System
- Tactical field emitter survey/location systems
- SIGINT/ELINT Systems



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