

## Dual Tech Pendant

### Short technical description



The Dual Tech Pendant (DTP) is an emergency device which is intended to be carried by persons under risk. It is activated by a momentarily button depression. Once activated it sends a FM signal which lasts for 2 seconds which will be received by the nearest base station receiver in the area. The modulation signal is a data stream having the base-band frequency in the range of 500-700Hz.

The DTP basically consist of three main blocks. The first one is a 900MHz active AM detector which acts like a receiver. The output of the detector provides a demodulated data stream that is fed to the second block. The second block is the processing unit. It is made by means of a low speed, low power microcontroller. This device interprets the incoming data and takes action accordingly; sometimes, transmission is part of the action. The third block is a VHF transmitter. The transmitter is crystal driven, it operates in VHF band (173.225 or 174.2 MHz) and it is frequency modulated.

The role played by the pendant is a locating device one. The built in microcontroller stores one ID number as well as the Location Code, meaning the last well known location the pendant went through. If the button is depressed, the pendant will send a data stream including ID, Location information as well as data related to its functional status.

The DTP is part of a small area Locating System. It works close to a number of beacons implemented using the 900MHz Wall Transmitter.