

# LAND VTS-300



# SEA MTS-400



# FLIPPER TS SERIES Tactical Satellite Communication

- HTS - 100 \ Handheld
- VTS - 300 \ Vehicular
- MTS - 400 \ Maritime
- ATS - 500 \ Aeronautical
- VTS - 301 \ HQ



**COMMCRETE**  
Solid Communication Solutions





## General

First responders & Military often work in harsh environment, relying on robust portable radios to provide all-informed C4I (Communication for Command, Control, Coordination & Intelligence) of dispersed forces.

However, when operational distances extend beyond line of sight, VHF/UHF radios run out of range, unable to meet the requirements. Using terrestrial repeaters or relay stations has its own disadvantages when disaster occur. Deployment of mobile repeaters results in insufficient coverage and lots of logistics.

Furthermore, disasters such as Earthquakes, Wildfires and Floods rule out the ability of terrestrial deployment.

## Flipper™

**Flipper by Commcrete** is a very small form factor satellite communication module. It turns any line of site tactical radio of all bands (50-950MHz) to a tactical satellite radio.

Flipper SWaP (Size, Weight & Power) and Multi-Band flexibility make Flipper the right solution for soldiers, rescuers and first responders. Whether you're Law Enforcement, Firefighter or Military, adding Flipper to your radio, immediately connects you to the network regardless of geographic boundaries. The size of Flipper combined with a small omni directional antenna, makes it the ultimate Comms-On-The-Move (COTM) product for various scenarios.

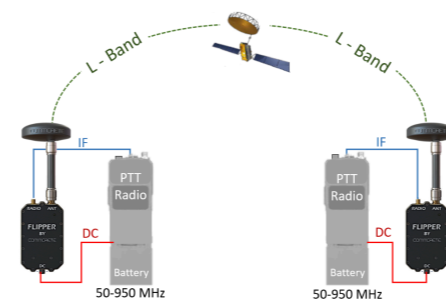
## Tactical Communication over GEO satellites

Flipper™ complies with GEO satellites ISM L-Band frequencies, making it invincible in size and performance. Therefore, the integration of Flipper and customer radio excels any other solution for Voice & Data in all aspects.

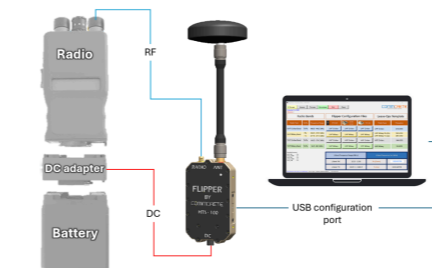
## Main Features

- Turning any LOS PTT Radio, no matter the frequency band, to PTT satellite radio.
- Turning all analog & digital PTT Radio waveforms such as FM, CVSD 16K & 12K, P25, TETRA, DMR, NXDN.
- Omni directional antenna – no need to point the antenna to the satellite.
- The system is tolerant to environmental obstacles, yet it is recommended to avoid physical disturbances such as trees and buildings.
- System end to end latency: ~250ms-500ms (depends on the specific GEO satellite used).

### System architecture

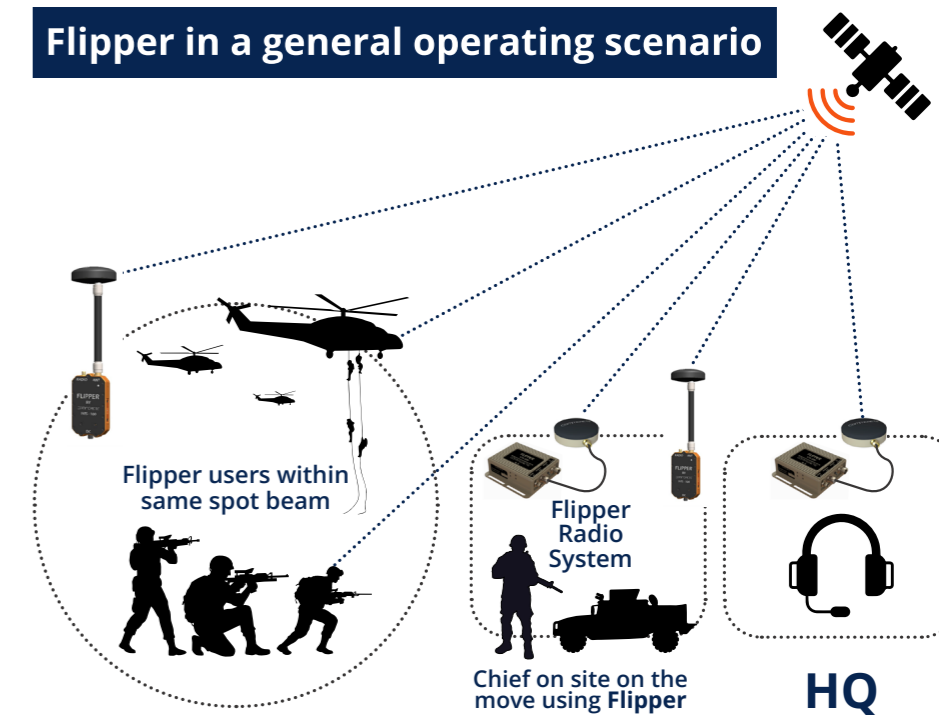


### Flipper interfaces



Handheld Flipper HTS-100	Passive Antenna	Mobile Flipper / HQ Flipper VTS-300, MTS-400 ATS-500, VTS-301	Active Antenna
<b>Radio Frequencies</b> MHz 50-950 (Each band is user defined)	<b>Frequency</b> L-Band	<b>Radio Frequencies</b> MHz 50-950 (Each band is user defined)	<b>Frequency</b> L-Band
<b>RF Input</b> Watts 0.5-5	<b>Power</b> (Passive (none	<b>RF Input</b> Watts 0.5-5 (Protected up to 80W)	<b>Power</b> Active – Powered by Flipper over coax cable
<b>EIRP</b> 36dBm (max)	<b>Mounting</b> Side Mount Gooseneck	<b>EIRP</b> 36dBm (max)	<b>Mounting</b> Bottom Mount Screws / Magnet
<b>Environmental</b> -30°C - +60°C Operation IP67	<b>Environmental</b> -30°C - +60°C Operation (-60°C - +60°C for ATS-510) IP67	<b>Environmental</b> -30°C - +60°C Operation IP67	<b>Environmental</b> -30°C - +60°C Operation IP67
<b>Physical</b> 60mm X 90mm X 14mm 130 grams	<b>Physical</b> Ø65mm 100 grams	<b>Physical</b> 150mm X 145mm X 40mm 700 grams	<b>Physical</b> Ø100mm 260 grams
<b>Compliance</b> CE, FCC		<b>Compliance</b> CE, FCC	

## Flipper in a general operating scenario



## Customer service & support

Flipper TS Series Kit contents, accessories & spare parts are detailed in the Flipper TS Series datasheet.

Commcrete Ltd constantly develops and updates its portfolio of products. This user manual is updated accurately to the date noted on it.

For any further information it is recommended to contact Commcrete Ltd directly through any channel preferred:

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