



## Chelton Airborne TETRA

### Why Airborne TETRA?

TETRA (Terrestrial Trunked Radio) is the World's preferred Government communications infrastructure. TETRA, a cellular, trunked communications system, is similar in architecture to commercial cell-phone systems. Many governments are implementing single, countrywide, TETRA infrastructures as their new digital communication system for their key agencies. These include Police, Ambulance Military, Fire and other government users.

TETRA delivers: secure, reliable trunked and direct-mode communications, interoperability between agencies and the ability to send both voice and data. Interoperability is facilitated by the ability to make point-to-point calls between all users on the network and through talkgroups.

The TETRA infrastructure consists of: Fixed base-stations, Switching and Management Infrastructure (SwMI) and the mobile radios (Terminals).

The UK is a world-leader in the implementation of TETRA and pioneered the implementation of TETRA for airborne use. Chelton's involvement with this work since the beginning means that we are the most experienced provider of avionics-standard airborne TETRA systems.

Chelton has supplied avionics standard airborne TETRA systems for a wide-range of Government users, in the UK and internationally.





## What can Chelton offer?

A proven core TETRA radio, offering full compatibility with:

- TEA1-4 Air Interface Encryption
- End to End Encryption (E2E)
- Highly Preferred Subscriber Class (HPSC)
- Interoperability with any TETRA ground infrastructure
- Integrated GPS
- Option gateway and repeater functionality

## A range of configuration options

- Single, dual, multiple radio
- Single or dual CDU systems, to facilitate
- operation from cockpit and rear-cabin

## MMI tailored for airborne use

## NVG compatible displays

## Support services options, including:

- Support for installation and commissioning
- Software upgrades
- Obsolescence management

## A range of support peripherals including:

- Programming kits
- Interface modules



## TETRA in the Airborne Environment

- The TETRA Standard includes specific elements for airborne use. There are a number of additional features which must be considered, including:
  - Highly Preferred Subscriber Class (HPSC)
  - HPSC ensures that the airborne radio
  - terminal affiliates to ground base stations specifically designated for use with aircraft
  - Chelton's airborne TETRA range is HPSC tested and proven

## TETRA Security – Encryption

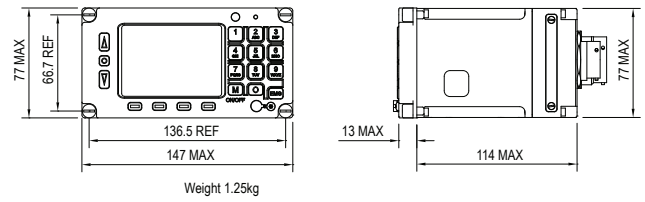
- TEAs (TETRA Encryption Algorithms) are used to encrypt transmissions between all radio terminals and base stations
  - TEAs are geographically-based.
  - For example, TEA2 is used in the Schengen Region Chelton's core TETRA radio covers all four TEAs
- End to End (E2E) encryption encrypts the complete link between the two ends of the communication path



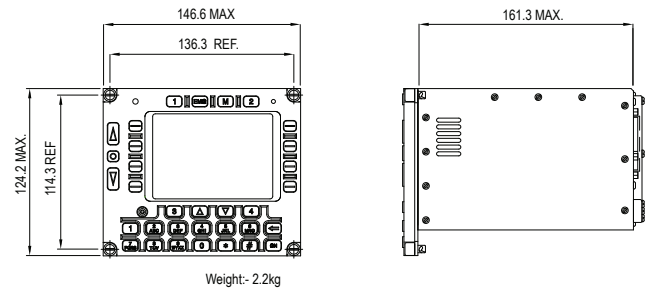
# CHELTON



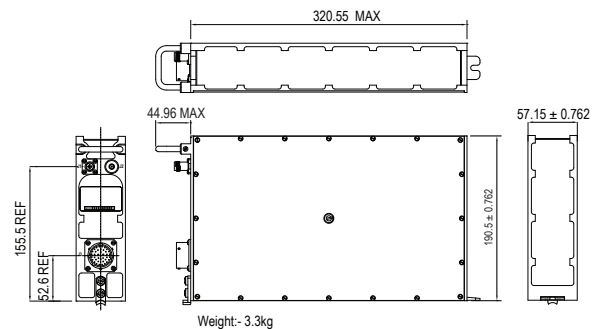
## Single/dual radio CDU



## Multi-radio CDU



## Transceiver



## Commissioning and Support of Airborne TETRA

- Chelton offers a full range of support tools and services. These include:
  - Programming tools
  - Support for installation
  - Assistance with commissioning on the network, including loading air interface algorithms and radio customisation
  - Focused SLAs
  - Software upgrades
  - Obsolescence

## Equipment Summary

- Proven core radio
- Operates on Motorola, Selex, Rohde and Schwarz, EADS and other networks
- DO160 D/E environmental qualification
- Standard Dzus/ATR LRUs
- 28V DC power
- Interfaces with standard aircraft audio system
- NVG/NVIS compatible displays

