ElettraSuite AS-3000
TETRA avionic transceiver

ELETTRA SUITE

radio terminals

SELEX Communications
A Finmeccanica Company

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TETRA avionic transceiver

OVERVIEW

The **ElettraSuite AS-3000** is a TETRA mobile terminal built in full compliance with avionic specifications. The equipment with its rich feature set is the ideal solution to extend TETRA services to users in helicopters and fixed wing light aircraft.

The ElettraSuite AS-3000 is composed by two LRU's (Line Replaceble Units), a radio unit (with mounting tray) and a control panel for easy access to all its functions.

Repeater and Gateway

The ElettraSuite AS-3000 can operate as a TETRA DMO Repeater and a TETRA DMO Gateway allowing network coverage to be extended on demand.

Acting in repeater mode between TETRA terminals working in DMO, the equipment will increase the range of DMO communications. Whilst in Gateway mode, AS-3000 acts as bridge between TETRA terminals working in DMO mode and other TETRA users within the network coverage (TMO mode), extending the coverage of the network itself.

Packet Data

The ElettraSuite AS-3000 supports a high data rate capability both multi-slot Circuit Data and IP Packet Data, to allow easy fast file transfer,messaging, database interrogation or update and image/video transfer applications.

Security

The avionic equipment provides a set of embedded security features, including Authentication, **"Air Interface Encryption"** and **"End-to-End Encryption (E2E)"**, which offers a high degree of communications security and protects critical speech and/or data communications from potential eavesdroppers. The ElettraSuite AS-3000 can operate with a number of standard, or user-defined, E2E encryption algorithms.

Embedded GPS

AS-3000 transceiver includes a 12-channel high sensitivity GPS receiver.

FUNCTIONALITY

The ElettraSuite AS-3000 can operate in TMO (Trunked Mode Operation) and DMO (Direct Mode Operation).

Main functions are:

Voice services

- Individual half or full duplex calls to TETRA and PABX / PSTN users;
- Group calls (with open channel and late entry);
- Pre-emptive priority calls (allowing freeing of resources);
- Short number addressing;
- Calling line identity presentation;
- Talking party identification
- DTMF dialling.

Data services

- Status and SDS messaging;
- Packet data (single and multi-slot);
- Concurrent services management for voice calls and packet data transmission.

Security

- PIN code access;
- MS authentication;
- Air Interface encryption (ETSI EN 300 392-7 TEA1/TEA2/TEA3);
- E2E Encryption (IDEA and AES algorithm);
- Security Level 1.

Repeater services

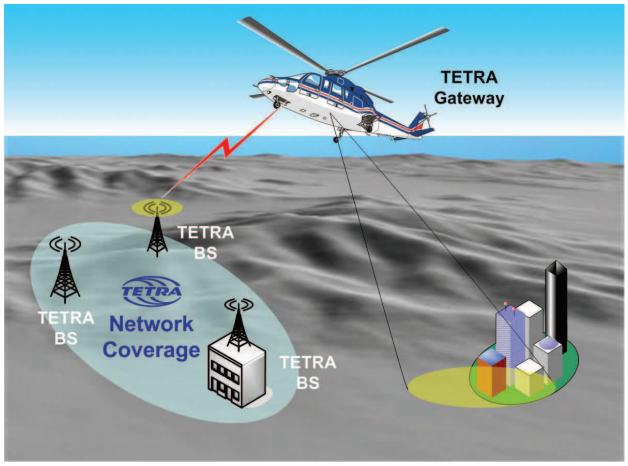
- Individual voice calls;
- Group calls;
- Emergency group calls;
- Call pre-emption;
- SDS messaging;
- Calling party identification.

Gateway services

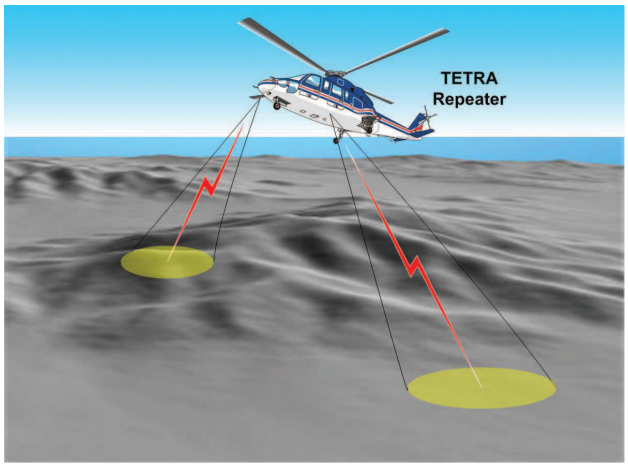
- Individual and group calls;
- Emergency group calls;
- Call pre-emption of existing call;
- Talking party identification;
- Monitoring of other gateways.

Other services

- Dynamic Group Number Assignment;
- Phone book;
- Call history;
- Transmit inhibit (TXI);
- Call authorised by dispatcher;
- Priority group scanning;
- Ambience listening (growth provision).



TETRA DMO Gateway function



TETRA DMO Repeater mode

The ElettraSuite CP AS-3000 control panel

TECHNICAL DATA

Frequency bands:	380 to 430 MHz or 410 to 470 MHz
Frequency step:	25 kHz (TETRA)
Functional modes:	• Trunked Mode • Direct Mode, Direct Mode Repeater, Direct Mode Gateway
RF power class:	• Class 3 (3W, 35 dBm) ETSI EN 300 392-2 • Adaptive power control supported
RX sensitivity:	-112 dBm (BER 4%)
Rx class:	Compliant to ETSI ETS 392-2 / 396-2 Class A + B
I/O Interfaces:	Data / controls: • 3 RS-422 (PEI, Secure, to/from Front Panel) • 1 RS-232 (PEIB)
Power supply:	
Power consumption:	+28Vdc, iaw RTCA DO-160D • In Tx mode: @28 Vdc < 140 W max • In Rx mode: @28 Vdc < 56 W max
Cooling:	Natural convection, no forced air cooling necessary
Dimensions:	¼ ATR Short, iaw ARINC 600 (LxHxW: 318 x 194 x 57 mm) weight, 4 kg

Control Panel

Main characteristics:	• Display LCD • Multifunction alphanumeric keyboard with backlighting • NVG compatible display and backlighting
Power supply:	+28 Vdc
Power consumption:	35 W max
Dimensions (LxHxW):	146 x 95 x 100 mm

Environmental specifications

Temperature range:	• Operational: - 40°C to +71°C • Storage: - 55°C to +85°C
Max altitude operating:	35,000 fts /10,670 m
Climatic conditions:	iaw RTCA DO-160D
EMC/EMI conditions:	iaw RTCA DO-160D

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