LEONARDO ELECTRONICS

VETWEET

VEHICLE MANAGEMENT SYSTEM

VeTweet is a vehicle management system, designed specifically to allow tracking of vehicles within the Airport Movement Area. It consists of a 1090 MHz transmitter transponder with an embedded DGPS/BAS module. VetWeet can be quickly and easily installed in any service vehicle. VeTweet improves situation awareness providing identification and position of equipped vehicles to Control Tower. This is done via Multilateration and/or ADS-B ground station networks deployed onto the airport surface. In order to ensure continuity of service, in absence of GPS, the equipment incorporates a gyroscope and an odometer.

DUAL-LINK CAPABILITY

VeTweet is available with dual-link capability by adding a HyperLan 5 GHz or WiFi 2.4 GHz module. This makes VeTweet the best solution for Air Traffic Services and Fleet Management in the most complex scenarios.

VETWEET PLUS

VeTweet plus is an enhanced version of the standard system. It consists of a 1090 MHz transceiver (Rx/Tx) and a 10.4 inch touch-screen display with an integrated on-board computer. This enhanced version allows vehicle drivers to navigate the Airport Movement Area, even in low visibility conditions, by means of a moving map onto which surrounding vehicles and aircrafts are displayed. VeTweet plus supports digital communication between vehicle drivers, ATC Controllers, Airport Operators.

SYSTEM ARCHITECTURE

The Tx/Rx transceiver component of VeTweet has been designed for outdoor use in all weather conditions. VeTweet is easily installed on top of vehicles by means of integrated magnets. The antenna (1090 MHz, GPS, HyperLan or WiFi) and transceiver are housed in a radome powered via RS422 through a car power socket. Main features include:

- DGPS/SBAS position information
- ADS-B in/out
- TIS-B/FIS-B
- On board situational awareness
- Recognition capability
- Short and extended squitter transmission
- Ease of installation
- Ease of maintenance
- Compact dimensions
- Easy to configure
- Low power consumption
- Low electromagnetic emission

The touch-screen on-board computer comprises an integrated central unit and a graphical 10.4 inch touch screen display.

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TECHNICAL SPECIFICATIONS

APPLICABLE STANDARDS
- ICAO Annex 10, Vol.4
- RTCA DO-260A
- EEE 802.11/a-b-g

1090 MHZ ANTENNA
- Rx Bandwidth: ICAO compliant
- Message types: DF17/18

TRANSMITTER
- TX Bandwidth: ICAO compliant
- Message types:
  - -DF11 (config. format)
  - -DF18 (config. format)
- Transmitter frequency (jittered):
  - -1 Hz (DF11)
  - -2 Hz / 0.2 Hz (DF18 surface)
  - -0.2 Hz (DF18 identification)
  - -0.2 Hz (DF18 Oper. Status)
- Output power: 40, 43 dBm (configurable)

DISPLAY
- Type: TFT 800x600 pixel, 10.4”
- Input devices: resistive touch-screen
- Backlight: fluorescent backlight
- Audio: Acoustic alarm

2.4 GHZ/5 GHZ ANTENNA
- Bit rate: Up to 54 Mbit/s
- Operating frequency:
  - -2.4 -2.5 GHz
  - -5.47 -5.725 GHz

OUTPUT POWER
- 2.4 -2.5 GHz: 20 dBm EIRP (adjustable)
- 5.47 -5.725 GHz: 30 dBm EIRP (adjustable)
- Data encryption: WPA, WPA2, WEP

ENVIRONMENTAL
- Operating environmental Temperature: -30°C to +55°C
- Humidity: IP-67 compliant

ELECTRICAL
- Input voltage: 10.8 -27 V
- Power consumption: < 10 W

INTERFACES
- RS422 or Ethernet 10/100 Base-T (IEEE 802.3)

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