Company Presentation

By Ventura Rigol
Complete Telecommunication Systems
from take-off to landing

Extended Range “En route” Communications

Take-off

ACC “En route control “VCSS Back-up

Approach .... To Landing...

From Take off.....
Telecommunication Systems for CNS/ATM
TELERAD key features

- TELERAD SA – Private Company established in 1950
- Located in Anglet, France
- In operation in more than 70 different countries

Our mission
- Design, manufacture, commissioning and marketing of radio systems for Air Traffic Control and maritime communications
- World market, both civil and military

Number of employees: 82 persons
- 40% technicians and engineers

Turnover
- 9.8 M€
- Exportation: 70%
- Defense Market: 18%

10% of the annual turnover invested in R&D every year

Sales revenue 2014

- 91%
- 5%
- 4%

COM
GBAS
NDB
Our core activity

- **Aeronautical Radio communication Systems - COM**
  - VHF, UHF and V/UHF radios (TWR & ACC)
  - Mobile and portable radios mobiles
  - Peripherals, redundancy units…
  - Remote Control and Monitoring Systems

- **GBAS - NAVAIDS**
  - VHF Data Broadcast (Tx / Rx)
  - Antenna
  - Airborne VDB receiver

- **NDB - NAVAIDS**
  - Locators
  - Offshore NDB
  - Transportable NDB
From innovation to international market

100% TELERAD radios made in Anglet, France

**R&D**
- Design and development of TELERAD product line.
- Specific products for industrial integrators.

**Production**
- Manufacturing of radio products and ancillary equipment
- Complete Radio Communication Systems offer including RCMS

**Services**
- Site survey
- Technical architecture definition
- Installation
- Commissioning
- Training – Technical training center
Some references of our 9000-2G

**Software defined radios (Mode2)**
- Civil Bands – VHF
- Military Band – UHF
- Native IP Technology - Voice & Data

*In phase with SESAR, NextGen and Carats Roadmap*

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**FRENCH CAA**
DGAC/DSNA
Renewal of the national radio parc
« 3000 radios »

**300 radios delivered to AENA**
For Barcelona and Madrid

**FAA – USA by transfert of technology to General Dynamics**
« 40 000 radios »

**SkyGuide Switzerland**
Renewal of the national radio parc
« 750 radios »

**Incheon Airport South Korea**
Renewal of all radio for VOIP new equipment

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2011  2012  2013  2014  2015
Some partnership with Air Navigation Service Providers

TELERAD
Software designed radios

- Switzerland
  - 26 radio sites
  - More than 7550 radios
  - Remote control and monitoring

- France
  - More than 3000 radios

- South Korea
  - 2 sites
  - More than 120 radios
TELERAD partnership with industrial integrators

R&D TELERAD
Customized products

Honeywell
THALES
snc

GENERAL DYNAMICS

CM-306 (V2) VHF Receiver
CM-306/256 (V2) VHF 12/50W Transmitter
CM-306 (V2) UHF Receiver
CM-306/256 (V2) UHF 12/50W Transmitter
TELERAD radios over the world

TELERAD radio systems are operated in more than 70 countries
New Generation 9000-2G
VoIP Multimode Software Defined Radios (VHF or UHF)

Main VHF Features:
- Frequency range: 118-144 MHz (Opt. 108 MHz)
- AM-DSB voice 25 kHz and 8.33 kHz (Climax)
- Transmitter output power: 5-50W (0.5 dB steps)
- Option: 100 W AM with CPE 9000
- 2 Ethernet ports
- Remote Management: RS485 JBUS and SNMP
- VoIP ATM interface
- Low heat => Fanless Radios
- Reboot in less than 6 seconds

VDL Modes:
- Mode A (AM-MSK - Internal modem)
- Mode 2
- Provision for Mode 3 (D8PSK, 31.5k)
- Mode 4 (GFSK, 19.2 k)

VoIP ED-137-b Compliant - ETSI Plug test performed
NDB Products – Portable NDB

Power supply voltage: 24 V.d.c. (typical)
Frequency range: 200-535 kHz - 100 Hz step
Output power: Adjustable up to 50W (200W peak) on 50ohms load.
Consumption for 50W carrier: < 3.5 A (carrier non keyed)
Modulation mode: NON/A1A - NON/A2A
Modulation frequency in NON/A2A: 1020Hz + 50Hz, 400Hz + 25Hz
Distortion: < 5% at 95% of modulation
Harmonic frequency: < -45 dBc at the Tx output< -65 dBc after antenna
Spurious frequency: < -45 dB compared with the carrier
Code signal programming: Up to 3 letters
Keying cycle: 20s in NON/A1A and 10s in NON/A2A
Signaling: Battery operation
Operating temperature: -20°C to +55°C
Storage temperature: -40°C to +70°C

40 NM coverage for low altitude helicopter flight
The VSIM9000-2G has been especially designed to meet 3 needs:

• Putting into service and maintaining VoIP radio equipments
• Test / development of ED137-1 implementations
• Training: Introduction to the ED137 standard as well as Telerad equipments possibilities.

Any failure during connection attempts is monitored and logged to facilitate the research of failure and putting the installation back into operation.

Description:

• Its MOS analysis, as well as its signal generator, coupled to the reception measurements (AF/RF levels) permits to evaluate the quality of the VoIP communication with a high accuracy.
• QoS indicators such as packet loss and jitter are monitored during the communication to detect in real-time any dysfunction of the IP network.
Remote Control & Quality Monitoring
Example from Incheon’s RCMS
Remote Control & Quality Monitoring
Our Productions Means
Our Production Means
Thank You!

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