

# Racal 25

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## Built to Exceed Project 25 Standards

- **Smallest and Lightest Project 25 Portable**
- **Full, Multi-mode Operation**
  - **Project 25 Digital (EIA/TIA 102)**
  - **Analog 12.5/25 kHz Channels (EIA/TIA 603)**
  - **CTCSS, DCS, and Carrier Squelch**
  - **DTMF Signalling**
- **“Shadow Channels” for Analog/Digital Multi-mode Operation**
- **Rugged Metal Housing Submersible to 2 Meters**
- **Advanced Lithium-Ion Battery with Fuel Gauge Display**
  - **11+ Hours Operation**
  - **No NiCd Memory Problems or Battery Conditioning**
- **Project 25 Modes**
  - **Conventional Operation Unit-to-Unit Calls**
  - **Talk Group Calls**
  - **Emergency Calls with Silent Alarm**

The Racal 25 is the smallest, lightest and most rugged Project 25 compliant digital radio available. This compact portable supports full, multi-mode operation and features high quality, error corrected, digital voice and DES Encryption without range or audio quality loss. Programming can be performed via the radio front-panel keyboard (password protected), by direct unit-to-unit cloning, or with a PC using the Windows 95/98/NT based PC Programmer. Software upgrades can be distributed via the Internet or disk without the requirement for special interface boxes or software. With exceptional scanning and encryption capabilities, and an advanced Lithium-Ion Battery with fuel gauge display, the Racal 25 is available now to fill your present and future communication requirements.



**The Ideal Digital Radio  
From a World Leader in  
Secure Miniature Communications**

**THALES**

# Racal 25

## Built to Exceed Project 25 Standards

### Technical Specifications

#### Physical Parameters (with battery)

Height: 7.80 inches (19.8 cm)  
Width: 2.60 inches (6.60 cm)  
Thickness: 1.05 inches (2.67 cm)  
Volume: 21.3 cubic inches  
(348.9 cubic cm)  
Weight: 16.7 ounces (473.4 gm)

#### Keypad

16 Back-lit Buttons (12 Button DTMF  
+ 4 Menu Navigation Keys)

#### Display

32 x 80 Pixel Graphics Liquid Crystal  
Display (LCD)  
Adjustable Back-lighting  
3-Color LED Status Indicator

#### Controls

16-Position Channel Select Knob  
Programmable Function 3-Position  
Toggle Switch  
3 Programmable Function Side Keys  
Emergency Push Button  
Push-To-Talk Switch  
On/Off/Volume Knob

#### Channels

16 Zones of up to 16 Channels Each  
16/48 Quick Select (Channel Select  
Knob and Toggle)  
256 Selectable from the Keypad

#### Batteries

Twist-lock Rechargeable Lithium-Ion  
Internal Cell Management  
"Smart-Battery" Monitoring Features  
1500 mAH Capacity  
11+ Hours Operation at 5 watts  
(5/5/90 Duty Cycle)

#### Channel Spacing

12.5/20/25/30 kHz Channels  
2.5/3.125 kHz Frequency Increments

#### Environmental

Case: Sealed Metal Case  
Immersion: 6 Feet of Water  
(2 meters)  
Temperature:  
Operating -30°C to +60°C  
Storage -40°C to +85°C  
Shock: MIL-STD-810E  
Vibration: MIL-STD-810E  
Salt Fog: MIL-STD-810E  
Humidity: MIL-STD-810E  
Altitude: MIL-STD-810E  
Sand & Dust: MIL-STD-810E  
Blowing Rain: MIL-STD-810E

#### Operating Modes

12.5/25 kHz Conventional Analog FM  
12 kbps CVSD DES (25 kHz  
Channels) (optional, available now)  
Project 25 Common Air Interface  
(CAI) Digital  
Project 25 CAI with DES Encryption  
Digital  
Project 25 OTAR  
Trunking (future software upgrade)

#### TRANSMITTER

##### RF Output Power

0.1, 0.5, 1, 2 and 5 watts Channel by  
Channel Programmable

##### Frequency Stability

±1.0 ppm

##### FM Hum & Noise

46 dB @ 25 kHz  
40 dB @ 12.5 kHz

##### Audio Response

+1, -3 dB 300-3,000 Hz  
(EIA/TIA 603)

##### Audio Distortion

<2%

##### Non-harmonic Emissions Conducted/Radiated

-75 dBc

#### RECEIVER

##### Sensitivity

0.23  $\mu$ V 25/30 kHz Analog  
0.21  $\mu$ V 12.5 kHz Analog  
0.28  $\mu$ V 12.5 kHz Digital

##### Adjacent Channel Rejection (Selectivity)

58 dB 12.5 kHz Channels  
73 dB 25/30 kHz Channels

##### Audio Output Power

500 mW

##### Intermodulation

74 dB

##### Spurious Response

80 dBc

#### Accessories

Carrying Cases  
Leather Fire Fighter's Duty Case  
Leather Duty Case  
Nylon Tactical Carrying Case  
Hand Held Speaker/Microphone  
AC Powered Single Battery Charger  
AC Powered 6-Way Battery Charger  
AC/DC Powered 6-Way Battery  
Charger  
"AA" Alkaline Cassette  
Narrowband High Gain Antenna  
Cloning Cable  
PC Programmer  
Surveillance Harness, 2 wire and 3  
wire

#### Encryption Capabilities

Include up to 16 Keys  
2 Algorithms  
Keyfill from PC or Existing KVL®  
Keyfill Device  
Analog DES Encryption (25 kHz  
Channels)  
Digital OFB DES Encryption

#### Advanced Scanning

Channel Scan  
Multiple Zone Scan  
Two Priority Scan channels  
All Radio Search  
Talkback Scan Revert

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Specifications are typical performance and  
subject to change without notice.

QUALITY SYSTEM  
CERTIFIED  
ISO 9001

