CAEN SyS
CAEN Spectroscopy Division

STANDALONE, RUGGEDIZED PORTABLE UHF RFID READER FAMILY

RadREAD Family

APPLICATIONS AND SCENARIOS

The **RadREAD** family is a component of the **DigiWaste** platform.
The **RadREAD** devices are dedicated to the reading or the reading/writing of the **RadRFID** tag.
The **RadREAD** devices can be used as **DigiWaste** Platform accessories in the following scenarios:

Waste Digitization

- UHF RFID tagging of the measured items and storage of most sensitive data in RFID tag
- Full description of measured items and transmission of data to remote database

Waste Storage

- Survey and tracking of waste until final disposal

Radioprotection patrols

Nuclear transportation

- Measurement and tracking of medical and industrial radioactive items from production site to end user

Large Surface Measurement

- Characterization of large surfaces and deployment of RFID tags according to user defined surface meshing

INTRODUCTION

The CAEN **DigiWaste** Platform is the first fully comprehensive solution which provides seamless digitization of D&D activities. The system offers easy tracking of any type of radioactive material or object produced via D&D operations thanks to the use of specialized, radiation tolerant UHF RFID tags.
This information, together with operational instructions, may be accessed by on-field operators equipped with dedicated, ruggedized, and highly portable RFID readers from the **RadREAD** family.

RadREAD devices are specially designed to provide the Operator with quick and easy access to all relevant D&D information contained in the **RadBASE** database by simply scanning the **RadRFID** tag.
Operators equipped with the portable UHF RFID readers may be assigned tasks and specific operational instructions as well as up-to-date information in real time. This approach greatly increases efficiency; which translates into lower operational cost and enhanced comformity to the ALARA approach via lower potential exposure time.

DESCRIPTION

The **RadREAD** family is composed by different instruments.
The end user can choose the favourite instrument depending on the portability and the preferred OS. The **RadREAD** is available in three different form factor:

- Tablet (Windows 10)
- Smartphone (Android 7.0)
- PDA (gun reader) (Android 7.0)

Each device is equipped with the **RadREAD** application that allows the user to do the operation of reading or reading and writing on the **RadRFID** tag.
By scanning the tag the user can get all the relevant information stored on the tag itself and through the connection to the **RadBASE**, some extra information associated to the tag can be downloaded

For special application CAEN can provide the instruction wizard package.
This package allows to receive a step by step instruction wizard by scanning the **RadRFID** tag.

RADREAD TABLET

RadREAD Tablet is a rugged tablet PC with robust set of features designed to withstand industrial use while providing high tech solutions that increase productivity, improve safety, and reduce operational costs.The processing power comes from Intel's quad core N2930 Bay Tail-M processor paired with genuine Intel graphics for high performance. The tablet features a brilliant, in-plane switching with direct optical bonding, projective capacitive touch screen, which is outdoor viewable and offers 1920 x 1200 pixel resolution. Weighing at just 2.7 pounds (approx. 1200 grams) the **RadREAD** Tablet delivers lightweight mobility in a rugged tablet

RADREAD SMARTPHONE AND PDE

The **RadREAD** smartphone and PDE serial products extend Handheld-wireless product serials into Android OS 7.0 with 4G high speed network communication. Inside the compact hanheld device, sealing level of IP65 water/dust proof, 1.5m/4.5ft drop survival, ergonomic design technology, and 5.0 inch tough Gorilla Glass 3 screen are all equipped to ensure perfomance. Latest 1.3 GHz quad-core processor 2GB RAM/16 GB ROM and up to 128GB expansion are all designed to boost up experience level.

RADREAD TABLET MAIN FEATURES

- 10.1” 1920x1200 IPS LED Panel with P-Cap Touch
- Long battery life with Intel® Celeron® Quad Core N2930 processor
- IP65 water and dust proof
- Optional Barcode or RFID Reader
- Dual Camera Design: 5MP Main camera with LED flash/2MP Webcam
- Optional Expansion port for USB/ RS232 connection
- Hot-Swappable Battery Design /Optional high capacity battery pack
- 2 Programmable function keys
- Computrace® theft protection support
- With Optical Bonding for Sunlight Readability
- SOTI MobiControl compatible

RADREAD SMARTPHONE AND PDE MAIN FEATURES

- **Extremely Stable Performance**
  Android 7.0 OS with memory of 2GB RAM/16GB ROM can provide the highly standard experience
- **High Speed Data Communication**
  Double insurance of 4G high Speed network and dual-frequency WIFI network can ensure the real-time data communication in different using environment;
- **Rugged Ergonomic and Over-molding Design**
  Over-molding and ergonomic hardware design can satisfy most of the tough environment from different fields;
- **Extremely Stable Hardware Display**
  5.0 inch Gorilla Glass 3 9H screen can ensure the performance under different tough environment;
- **Highly Customized Structure**
  'All-in-One' hardware design conception can expand the hardware modules integration based on different project requirements, especially like UHF+HF**,** UHF+LF; HF+LF;
- **Highly Integrated and Preinstalled Application**
  The highly integrated and preinstalled ScanServer can satisfy most of the solutions obtained from Google Play by the working principle of 'Plug and Play'
- **Quick-Charging**
  Quick-charging technology can provide the most efficient experience

TECHNICAL SPECIFICATIONS OF RADREAD TABLET

Display Specifications

- Size: 10.1"
- Brightness: 700 (typ.)
- Resolution: 1920x1200
- Contrast Ratio: 800:1
- Display Color: 16.7M (6bit + HFRC)
- Touch: Multi-Touch Projective Capactive (supports Rain, Glove, Stylus Modes)
- Panel Viewability: Optical Bonding for Sunlight Viewability

System Specification

- Processor: Intel® Celeron® Quad Core N2930 1.83 GHz
- BIOS: AMI System BIOS
- Memory: 4GB SODIMM DDR3L-1600 (up to 8GB)
- LAN Controller: Intel WG82574L GigaLAN Controller
- Storage: 64GB mSATA SSD (up to 256GB)
- Audio: 1W Speaker x 2 (Built-in)

Wireless Communication

- WLAN: 802.11 a/b/g/n
- Bluetooth: Bluetooth 4.0 + Class I
- WWAN: Optional 4G/ LTE
- GPS: u-Blox Neo-6Q

Mechanical and Environment

- Dimensions (W x L x H): 271.8 x 197.2 x 19 mm (10.7 x 7.76 x 0.75 inches)
- Net Weight (kg): 1.2 kg (2.7 lbs) with standard battery, 1.4 kg (3.1 lbs) with optional high capacity battery
- Operating Temperature: -20°C to 60°C (AC mode), -10°C to 50°C (Battery mode)
- IP Proof: IP65
- Operating Humidity: 10% to 90% RH, non-condensing
- Certifications : CE, FCC, IC, UL 60950, EN60601**
- Drop: MIL-STD-810G Method 516.6, 4 ft to concrete*

Power Management

- Power Input: 12~19V DC
- Battery
  - 7.4V, typ. 5140 mAh Li-Polymer Battery (2S1P)
  - 7.4V, typ. 10280 mAh Li-Polymer Battery (2S2P,Optional)
- Battery Mark Ver. 4.0.1 Result: 8 hours (tested with MobileMark 2007)
- Adapter: 100-240V, 50-60Hz, 19V DC
- Battery Operating Time:
  - Std. Battery: 8 hours***

- High Capacity Battery: 16 hours***

*Note: The drop test with high-capacity battery must come with hand strap.
**Note: Measured at dimming LCD brightness. Varies depending on the usage conditions, or when an external device is attached.
***Note: this is a simplified drawing and some components are not marked in detail.
Please contact our sales representative if you need further product information.
****Note: All Specifications are subject to change without prior notice.

TECHNICAL SPECIFICATIONS OF RADREAD SMARTPHONE AND PDE

Physical Characteristics

- Dimension 170mm(H)x85mm(W)x23mm(D) ± 2 mm
- Weight Net Weight :370g (including battery&wrist strap)
- Display Gorilla Glass 3 9H 5.0 in. TFT-LCD(720x1280)
- touch screen with backlight
- Backlight LED backlight
- Keypads 3 TP keys, 6 function keys, 4 side buttons
- Expansions 2 PSAM, 1 SIM, 1 TF
- Battery Rechargeable Ii-ion polymer, 3.7V, 4500mAh

Performance Characterstics

- CPU Quad A53 1.3GHz auad-core
- Operating System Android 7.0
- Storage 2GB RAM, 16GB ROM, MicroSD (max 128GB expansion)

User Environment

- Operating Temp -20°c to 50°c
- Storage Temp -20°c to 70°C
- Humidity 5%RH to 95%RH(non-condensing)
- Drop Specifications 5ft./1 .5 m drop to concrete across the operating temperature range

- Sealing IP65, IEC compliance
- ESD ± 15kv air discharge, ± 8kv direct discharge

1D barcode

- 1D laser engine Honeywell N4313
- Symbologies All major 1D barcodes
- 2D CMOS Imager Honeywell N6603

2D barcode

- Symbologies PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode, Postal Codes, US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal. etc.

RFID UHF

- Protocol EPC C1 GEN2/ISO 18000-6C
- Antenna Gain Circular antenna(2dBi)
- R/W Range 1.5 m to 2.0 m (tags and environment dependant)

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