



DURRIDGE COMPANY INC.

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RAD7 SPECIFICATIONS

1. Functionality

Modes of Operation	<ul style="list-style-type: none">• Continuous radon gas monitoring.• Long-term/Short-term screening.• SNIFF mode, for searching for radon and thoron entry points.• GRAB mode protocols for measuring radon samples from air or water.
Measurement Modes	Measures radon in air, water, and soil (with optional RAD H2O, RAD AQUA, and Soil Probe accessories).
Data Storage	Stores 1,000 radon concentrations with associated temperature, humidity, and other data.
Sample Pumping	Built-in pump draws sample from chosen sampling point.
Print Output	Printer output displays radon and thoron concentrations after each cycle. Printed alpha-energy spectrum identifies isotopes in radon and thoron decay chains.
PC Connectivity	DURRIDGE's CAPTURE Software facilitates PC Connectivity: <ul style="list-style-type: none">• Download RAD7 data to computer for graphing and analysis.• Visualize radon, thoron, temperature and humidity over time.• Statistical analysis tools track concentration averages and uncertainties.• Chart Recorder provides real-time RAD7 status monitoring.• Control RAD7 operations from computer via direct or remote Internet/modem connection.• Export downloaded data for further analysis.
Audio Output	Audible "geiger counter" indicates presence and intensity of radon and thoron. May be turned on or off.
Tamper Resistance	The "Test Lock" command is programmed into the RAD7 to secure it against tampering.

2. Technical Specifications

Principle of Operation	Electrostatic collection of alpha-emitters with spectral analysis. Passivated Ion-implanted Planar Silicon detector. SNIFF mode counts polonium-218 decays, giving 95% full response within 20 minutes, to sudden increases and decreases in radon concentration.
Built-In Air Pump	Nominal 1 liter/minute flow rate. Inlet and outlet air filter connectors.
Connectivity	RS-232 port for computer or modem hookup. USB adaptor is included for full compatibility.
Measurement Accuracy	5% accuracy in any humidity (with desiccant), 0% - 100% non-condensing. ~750 ml measurement chamber is immune to build-up of lead-210.
Nominal Sensitivity	<ul style="list-style-type: none"> • Monitor: 0.5 counts/min/pCi/L • Sniffer: 0.25 counts/min/pCi/L
Radon Concentration Range	0.1 → 20,000 pCi/L (4 → 750,000 Bq/m ³) 0.005 pCi/L intrinsic background.
Low Radon Performance	Capable of measuring concentrations below 0.1 pCi/L. EPA action level of 4 pCi/L detectable in 60 minutes, with 10% standard deviation.
Recovery Time	Recovers from high radon exposure with a 3.05 minute half-life, to less than 10% of peak value in 12 minutes; to less than 1% of peak value in less than 30 minutes. Drops from 20,000 to 1 pCi/L in one hour..
Operating Ranges	Temperature: 30° - 105°F (0° - 40° C). Humidity: 0% - 100%, non-condensing.
Cycle Range	User controllable number of cycles, from 1 to 99 to unlimited, per run. User controllable cycle time, from 2 minutes to 24 hours. Preset protocols for 1-day, 2-day, and unlimited test durations.
CAPTURE Software	Compatible with Microsoft Windows XP and 7, and Mac OS X.

3. Physical Specifications

Dimensions	11.5" x 8.5" x 11" (29.5 cm x 21.5 cm x 27.9 cm)
Weight	9.6 pounds (4.35 kg)
Display Output	2 line x 16 character, alpha-numeric display.
Case Material	High density polyethylene
Infrared Printer	Chamjin NewHandy 700 Wireless Infrared Printer included.
Power Supply	11-15 (12 nominal) VDC @ 1.25A or internal rechargeable batteries (5 AH) Optional AC input available for non-EU customers
Battery Longevity	24 hours in SNIFF mode; 72 hours in Monitor mode.