

# THYROID UPTAKE SYSTEM

## *Accuracy, Versatility, and Portability*

### **Complete, mobile, self-contained system:**

- PC with high capacity hard drive, monitor, keyboard, trackball mouse, color printer
- Windows® XP platform
- 1024-channel software-controlled Multi-Channel Analyzer
- Software programs for thyroid uptake, wipe test, Schilling Test, bioassay, hematology, manual MCA
- 2" x 2" NaI(Tl) detector with collimated shield (meets IAEA specifications)
- Distance measurement rod (detector-to-patient)
- Separate connections for probe and optional well counter for fast, convenient changeover
- Mobile stand with variable-height counterbalanced arm (for seated or supine subjects)
- Industry exclusive two-year warranty

### **Comprehensive Testing and Utility Software:**

#### **Thyroid Uptake Program**

- Supports multiple time-stamped uptake measurements
- Auto decay correction (or recount of standard)
- User-defined uptake protocols
- On-screen spectrum acquisition and analysis
- Reports include normal ranges, notes/comments, facility/physician/technologist

#### **Wipe Test Program**

- Complies with current regulatory standards
- Automatic subtraction of background activity
- Stores (and reports) individual wipe data on multiple wipe locations in any defined "area" - Can be customized for package/shipment wipes

#### **Schilling Test Program** for use with kits by Mallinckrodt, Bracco, Nycomed Amersham (Dicopac)

- Program follows manufacturer's instructions for procedures and calculations

#### **Bioassay Program for individual patients or employee groups**

- Report choices include single bioassay report, summary of multiple bioassays on same patient, and summary report on multiple employees (gives most current assay result for each individual, for all isotopes of interest).

#### **Hematology Program** for red blood cell survival, blood/plasma volume, ERF and GFR

#### **Manual MCA Program** for performing sample counts and analysis beyond the scope of the standardized programs

- Expandable library of 23 commonly used isotopes – pre-programmed with LLD, ULD, regulatory alarm levels, gain
- High-resolution graphics
- Keyboard entry of alphanumeric data, trackball mouse for selecting screens, menus, and options
- All programs provide clear, concise reports for referring physicians, payers, patient records
- Database for physician and technologist identification

#### **System Administration / Quality Assurance Program**

- Automatic daily calibration to Cs-137 source, with report
- Automatic high voltage adjustment, with verification
- Automatic Chi-Square test, with report
- Automatic communications test
- Administration summary QA report



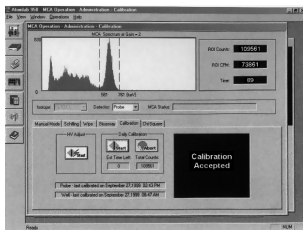
*Atomlab 950 software offers exceptional programming for Thyroid Uptakes, Wipe Testing, Bioassay, Schilling Tests, RBC Survival, Blood Volume, and Manual Count procedures.*

The Atomlab 950 Thyroid Uptake System is an advanced multi-purpose spectrum analysis instrument designed for diverse nuclear medicine applications. Uptake studies, bioassays, Schilling tests, hematology tests, wipe tests, and other user-defined tasks are accomplished with speed and precision using this fully integrated computer-controlled instrument and its comprehensive selection of application software. The system's multi-channel analyzer has 1024 channels, with separate input connections for the probe and optional well counter. Engineered for portability, durability, and operational efficiency, the Atomlab 950 handles clinical tests, safety compliance tasks, and system administration procedures quickly and accurately. Task-specific software provides step-by-step guidance throughout all procedures, automatically performs calculations, stores patient information and test results, and outputs clear, concise reports. The "Procedure Definition" screen is used to set up a facility's standardized test protocols by selecting the most appropriate program, editing program parameters to suit specific facility requirements, or by creating an entirely new procedure. When program design or modification is completed, the new program is stored for future use. A toolbar "help" button provides detailed system assistance.

The self-contained Atomlab 950 system is configured on a mobile platform with locking casters and a base that measures only 30" by 31.5" (76 x 80 cm). An upper shelf supports the computer, monitor, keyboard, and trackball mouse. A lower shelf supports the color inkjet printer. The base of the stand incorporates a shelf to hold the optional well counter. A 2" x 2" NaI(Tl) detector with collimator articulates on a counterbalanced arm. Twenty-two inches (56 cm) of vertical travel allows the probe to be positioned up to 55" (140 cm) from the floor to accommodate seated or supine patients. The probe swings more than 180° on the horizontal plane, and extends outward up to approximately 34" (86 cm) from the support column. This design makes positioning for uptake studies simple and comfortable for both patient and technologist.

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**ATOMLAB 950 THYROID UPTAKE SYSTEM**



*Atomlab 950 simplifies daily calibration*



**SPECIFICATIONS:**

- Industry exclusive two-year warranty

**MEDICAL SPECTROMETER HARDWARE**

**Computer:**

PC for Windows® XP with P4, 1.80 GHz processor, 256 megabyte RAM, 20 gig HD, 24x CD-RW and 3.5" floppy drive. Equipped with: 15" Flat Color Monitor, Sound Card and Speakers, Standard Keyboard, Trackball and Hewlett-Packard Desk Jet Printer.

**Multi-Channel Analyzer**

- Channels:** 1024
- Inputs:** Probe and well
- Spectral Resolution:** FWHM 10%
- Count Rate:** (Maximum) 100,000 cps
- Count Rate Stability:** 99%
- Gross Count Rate Linearity:** Within 5% up to 100,000 cps
- Pulse Height Linearity:** Within 2% (independent of detector)
- Connectors:** Signal (BNC); high voltage (MHV)
- Power Supply:** Regulated from 775-1225 VDC at 2 mAmps
- Detector High Voltage Adjustment:** Automatic H.V. adjustment for both probe & well. Uses 10 µCi Cs-137 as the calibration source.

**MEDICAL SPECTROMETER SOFTWARE:**

**Programs:** Thyroid Uptake, Wipe Test, Bioassay, Schilling Test, Hematology, Administration/ QA, Manual MCA

**Radionuclides:**

**Factory Programmed:** Au-198, Ba-133, Co-57, Co-58, Co-60, Cr-51, Cs-137, Fe-59, Ga-67, Hg-197, I-123, I-125, I-131, In-111, Ir-192, K-42, Na-24, Pd-103, Se-75, Sr-85, Tc-99m, Tl-201, Yb-169.

**User Set:** Unlimited user defined isotopes, setting ROI, half life, name, efficiency and gain.

**OTHER HARDWARE:**

**Probe:** 2" x 2" NaI (T1) integral line scintillation detector with tube base

**Uptake Stand:**

- Dimensions:** 42" l x 31" w x 62" h (106.7 x 78.7 x 157.5 cm)
- Collimated Shield:** Flat field collimator meeting IAEA specifications
- Arm:** Counterbalanced, two section arm, moves 22.5" vertically and extends 29" horizontally from stand's vertical column.
- Casters:** 3" maxi-lok
- Weight:** 296 lb (134.3 kg)

**Optional:**

**187-246 Well Counter:**

- Detector:** 2" x 2" NaI (T1) integral line scintillation detector with a .75" diameter x 1.44" deep well (1.9 x 3.7 cm)
- Lead Shielding:** 1" thick (2.5 cm)
- Cover:** .125" thick (.32 cm)
- Connectors:** Signal (BNC); high voltage (MHV)

**187-256 Well Counter, High Energy:**

- Lead Shielding:** 2" thick (5 cm)
- Cover:** .125" thick (.32 cm)

**Certification:** ETL Listed to UL 2601 Std. and CAN CSA C22.2 No. 601.1-M90, and CE marked.

*Prices subject to change without notice.*

- 187-140** Thyroid Uptake System, Atomlab 950, 115 VAC, Mobile, PC..... \$13,995.00  
*Mobile System includes:*
  - PC for Windows® XP with Pentium Processor, Color Monitor, Standard Keyboard, Trackball, Windows® XP and Atomlab 950PC Software, Hewlett Packard DeskJet Printer and 1024 Channel Multi-Channel Analyzer
  - 2" x 2" Tube Assembly and Base
  - Mobile Support Stand with Collimator
- 187-130** Thyroid Uptake System, Atomlab 950, 115 VAC, Table Top, PC..... 11,695.00  
*Table Top System includes:*
  - PC for Windows® XP with Pentium Processor, Color Monitor, Standard Keyboard, Trackball, Windows® XP and Atomlab 950PC Software, Hewlett Packard DeskJet Printer and 1024 Channel Multi-Channel Analyzer
  - 2" x 2" Tube Assembly and Base
  - Table Top Stand with Collimator
- 187-145** Thyroid Uptake System, Atomlab 950, 230 VAC, Mobile, PC..... 13,995.00
- 187-135** Thyroid Uptake System, Atomlab 950, 230 VAC, Table Top, PC..... 11,695.00
- Optional:**
  - 187-246** Well Counter, 1" lead (2.5 cm)..... \$2,495.00
  - 187-256** Well Counter, 2" lead (5 cm) ..... 2,795.00  
*Must be purchased with Thyroid Uptake System.*
- Related:**
  - GF0209** Rod Source, Cs-137, 1 µCi ..... \$310.00  
*Calibrated, NIST traceable*
  - 063-100** Rod Source Set ..... 1,795.00  
*Includes Ba-133, Cs-137, Co-57, Na-22, Mn-54, Co-60 and Cd-109.*
  - 101-103** Check Source, Cs-137, 10 µCi\* ..... 140.00  
*Un-calibrated, 1" dia x .25" thick (2.5 x .64 cm)*  
*\*Recommended Check Source for calibration of probe and well.*

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