

The Ultimate... User Friendly... Intuitive

## Captus<sup>®</sup> 3000 Thyroid Uptake And Well System

Performing Thyroid Uptake measurements has never been easier. The Captus 3000 combines a totally new software program with the latest PC technology to create a Thyroid Uptake system that is fast, reliable, and extremely easy to use.

The Captus software has been designed to get you up and running in virtually no time at all. The program contains a "Quick-Start" feature that walks the user through all of the initial setup functions. The "Quick-Start" feature also serves as an excellent teaching tool. The Captus 3000 software is a full service program with Thyroid Uptake, Wipe Testing, Bioassay, Schillings, Dicopac<sup>®</sup>, Blood Volume and RBC Survival functionality built in. The Wipe Test module has been a "New" feature that allows the flexibility of predefined or user defined groupings. The entire program has "Fly Over" control bars to allow quick access to whatever function is necessary.

QA is of course completely automated and now includes a "New" feature for measuring Minimum Detectable Activity. With the use of the two included reference standards (Cs-137 and Eu-152) the system will move from Calibration to Constancy to Chi-square with limited time and effort.

There is a new and versatile 1024 Multichannel Analyzer (MCA) module that allows measurements of energies up to 2 MeV. The MCA module also has an isotope selection library with over 90 preloaded isotopes and adjustable ROI's for easily reproducible counting parameters.

As always, the entire system comes with Capintec's unsurpassed Quality Construction and Customer Service. From Installation and Training to Applications Support just call 800-631-3826 to speak to a Technical Support Specialist.

### FEATURES

- Thyroid Uptake
- Bioassay
- Lab Tests
- 1024 Multichannel Analyzer
- Flexible pre-defined or user-defined Wipe Test groupings
- Improved data storage, archive and reporting functions
- "Quick Start" menu
- Automated QC functions, including energy calibration, constancy, X2 and MDA
- 360° Articulating Spring Arm



### SPECIFICATIONS

- Computer: Pentium III processor at 1.6GHZ, 20 GB hard drive, 48X CD-ROM, 15" color monitor, keyboard, trackball and color ink-jet printer.
- MCA interface PC board:
  - 1024 channels.
  - Maximum count rate of 100,000 cps.
  - ROI's are automatic or manual.
  - Differential Linearity: <2% over the top 98% of channels.
  - Integral Linearity: <1% over the top 98% of channels.
  - Preset live time, real time or total counts.
  - Automatic peak-finding.
- Two 2" NaI (TI) detectors:
- Flat field collimated to meet ANSI N44.3-1973.
- Drilled well with 1" lead shielding (optional 2' shielding available) and brass liner.
- Calibration sources: Cs-137 and Eu-152 (calibrated exempt sources provided at no charge).
- Power requirements: (With circuit protection, line filter and isolation transformer)
  - Standard: 115V      90-127V      50-60HZ
  - Optional: 220V      180-250V      50-60HZ
- Approximate Weight: 450lbs.

ITEM #	DESCRIPTION
5430-0076	Captus 3000 Thyroid Uptake System
5430-0077	Captus 3000 Thyroid Uptake & Well System

# Thyroid Uptake Systems

## Captus<sup>®</sup> 3000 Reports

### Auto Calibration For Well

The Autocalibrate module provides high voltage, zero offset and automatic gain adjustment; as well as a linearity correction and constancy test. Also included in QA are automatic chi-square and MDA calculation selections. Finally, the program has the ability to automatically perform efficiency calculation and storage for various isotopes.

<b>MCA: Accuspec</b>	
Date / Time: 01/30/2002 17:04	
<b>Step 1</b>	<b>Eul52 Linearity Correction</b>
Gain: 7.09	Channel Energy % Difference
Peak Found	(keV)
<b>Step 2</b>	16.6 32.9 0.7
High Energy Peak Channel: 330.8	21.1 40.8 3.6
Gain: 7.09	64.9 121.8 6.6
<b>Step 3</b>	176.9 344.3 2.8
Low Energy Peak Found	330.8 661.7 0.0
<b>Step 4</b>	388.2 778.7 -0.3
Iteration : 1	558.9 1100.9 1.5
Gain Adjust	746.2 1408.0 6.0
High Energy Peak Channel: 331.8	<b>Constancy Test</b>
Low Energy Peak Channel: 16.8	Counting Rate: 114.6kcpm
Gain: 7.08	Live Time: 4.9sec
Zero Offset Adjust	Activity Calculated As: 0.387µCi
High Energy Peak Channel: 16.7	Activity Measured As: 0.383µCi
Low Energy Peak Channel: 331.1	Deviation: -0.9%
Zero: 1.28%	
<b>Calibration Successful</b>	
Cs137	
High Energy Peak Channel: 330.8	
Low Energy Peak Channel: 16.6	
Gain: 7.08	
Zero: 1.28%	
High Voltage: 1000V	
Threshold: 1.50%	
<b>FWHM</b>	
FWHM: 7.2%	

### Thyroid Uptake Report

In this module multiple TU protocols can be established utilizing I-123, I-131 or Tc-99m. The protocols can use a standard capsule method or allow the system to perform an automatic decay correction to the administered dose. The system will store detailed patient demographics, physician data and administered dose data. There is no limit to the number of uptakes that can be performed and the results will be reported with detailed count information and automatic percentage uptake calculations. Also, there are user defined normal values that will be compared to the uptake results and "flagged" when the results are out of range.

<b>Patient: Smith, Bob</b>			
<b>Demographic Data</b>		<b>Administered Dosage</b>	
Patient ID: 123456	DOB: 02/15/1950	Isotope: I 123	Activity: 159.7 µCi
Age: 51 Sex: Male	Physician: Dr. Doltile	Date: 10/17/2001	Time: 10:48
Protocol: 1123	Technologist: TL		
<b>Dosage Data</b>		<b>Calibrated Dosage</b>	
Isotope: I 123	Lot #: 987654	Activity: 150.0 µCi	Date: 10/17/2001
Count Time: 300 secs	Probe Distance: 25 cm	Time: 12:00	
<b>Dosage Counted</b>		<b>Average cpm</b>	<b>Count 1 cpm</b>
Room Background 10/17/2001 10:48			<b>Count 2 cpm</b>
Capsule # 1:			
Net Capsule Counts 10/17/2001 10:48		12752	12752
		12742	
<b>Uptake At 4 Hours</b>			
Uptake Time: 10/17/2001 14:49			
Patient Background:		1275	1275
Patient Thyroid:		2550	2550
Patient Net Counts:		1275	
Current Capsule Counts:		10322	
<b>Uptake = 12.4 %</b>			
<b>Uptake At 23 Hours</b>			
Uptake Time: 10/18/2001 09:49			
Patient Background:		1275	1275
Patient Thyroid:		2550	2550
Patient Net Counts:		1275	
Current Capsule Counts:		3812	
<b>Uptake = 33.5 %</b>			

### Wipe History

The highly versatile wipe test module will allow users to establish as many locations as needed and to arrange the locations into either pre-defined or user-defined groupings. The program will perform an automatic peak and isotope identification of wipe results in order to advise the user of the type contamination encountered. There are pre-set trigger levels loaded or the user can define their own trigger levels, either way the results will flag any wipe that exceeds a trigger. Finally, the system will maintain a history of wipe results that can be printed as a whole or in part.

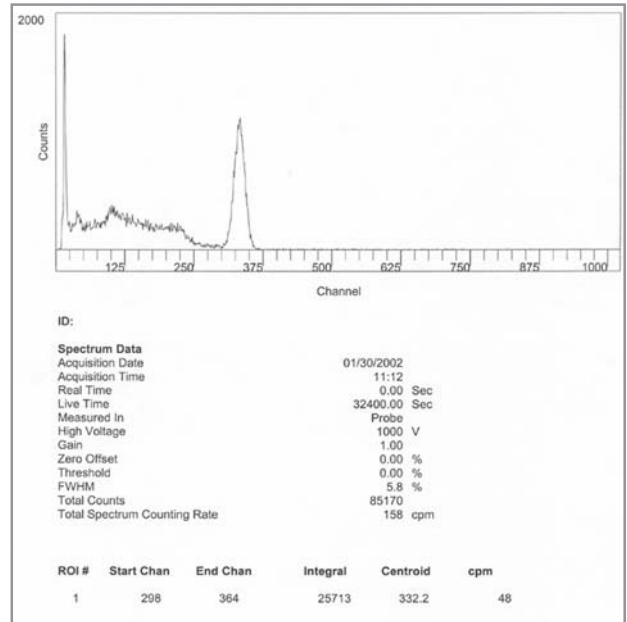
		<b>Net Counting Rate</b>	<b>Net Activity</b>		
AM Package		10/17/2001 11:01	60 sec	Trigger: 200 dpm	
	Background	765.0 cpm			
	Full Spectrum	517.0 cpm	795.4 dpm	HIGH	
	Cs137	149.0 cpm	1280 dpm	HIGH	
PM Package		10/17/2001 11:00	60 sec	Trigger: 200 dpm	
	Background	765.0 cpm			
	Full Spectrum	517.0 cpm	795.4 dpm	HIGH	
	Cs137	149.0 cpm	1280 dpm	HIGH	
Waiting Room		10/17/2001 11:00	60 sec	Trigger: 200 dpm	
	Background	765.0 cpm			
	Full Spectrum	517.0 cpm	795.4 dpm	HIGH	
	Cs137	149.0 cpm	1280 dpm	HIGH	
Bathroom		10/17/2001 11:00	60 sec	Trigger: 200 dpm	
	Background	765.0 cpm			
	Full Spectrum	517.0 cpm	795.4 dpm	HIGH	
	Cs137	149.0 cpm	1280 dpm	HIGH	
Hot Lab		10/17/2001 11:00	60 sec	Trigger: 2000 dpm	
	Background	765.0 cpm			
	Full Spectrum	517.0 cpm	795.4 dpm		
	Cs137	149.0 cpm	1280 dpm		



## Captus<sup>®</sup> 3000 Reports

### MCA Spectrum Report

The Multi-Channel Analyzer is very user friendly, ROI's can be selected from a convenient menu of isotopes with predefined regions or the user can define them. Protocols can be defined for real time, live time or acquired counts. Results are reported with full spectrum counts and counts by region of interest. All results can be saved in the database or exported to a spreadsheet.



### Schilling Test Report

In vitro lab test protocols are incorporated into the software; the user has access to Schilling, RBC Survival and both Cr51 and I125 blood volume studies. The program will integrate all patient demographic, physician and dose data and will perform automatic result calculations. By utilizing the report functionality all of the test data can be documented in a hardcopy format (Schilling is displayed) for physician review or for documentation in the patients file.

<b>Patient:</b> Fudd, Elmer			
<b>Demographic Data</b>		<b>Dosage Data</b>	
Patient ID: 55566777	DOB: 12/02/1938	Isotope: Co57	Lot #: 333222111
Age: 62	Sex: Male	Activity: 0.500 µCi	
Physician: Dr. Jay	Technologist: TL		
<b>Sample Preparation</b>		<b>Standard Dilution (D):</b> 1 to 100	
Count Time: 60 secs	Total Urine Volume (V): 1253 ml	Aliquot (A): 4 ml	
<b>Schilling Test</b>		<b>Average cpm</b>	<b>Count 1 cpm</b>
Test Time: 10/17/2001 11:07			<b>Count 2 cpm</b>
Room Background (B):		212	
Standard (S):		82049	82049
Urine Sample (U):		14368	14368
<b>Excretion = 54.2 %</b> Outside of Normal Range			

### Staff Bioassay Report

The bioassay allows for the quick and efficient measurement of the staff thyroid burden for I-123, I-125 or I-131. Measurement results can be reported in CPM's or uCi's. In order to meet regulatory requirements a cumulative history can be maintained on the computer and/or printed out for a hardcopy record.

<b>Bunny, B</b>	<b>ID: aaa111</b>	<b>DOB: 05/22/1945</b>	
	<b>Background</b>	<b>Net Counts</b>	<b>Activity</b>
10/17/2001 10:54			
I 131	12.40 cpm	951.8 cpm	0.516µCi HIGH
I 125	30.80 cpm	-1154 cpm	0.000µCi
I 123	8.400 cpm	380.6 cpm	

# Thyroid Uptake Systems

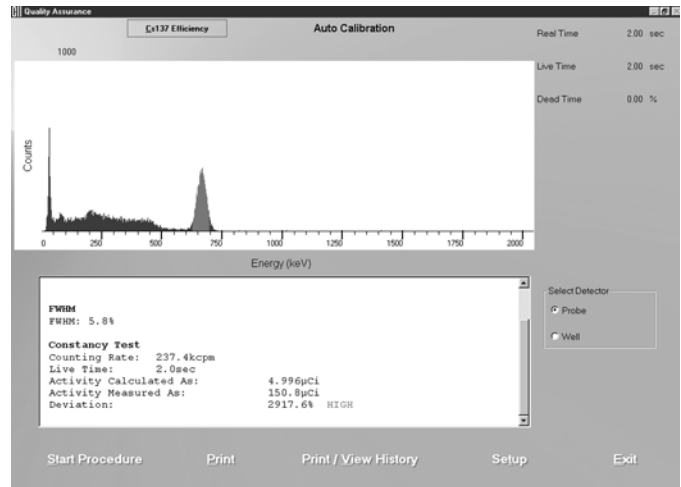
Improve the versatility and capability  
of your Captus 500, 600, 1000 or 2000...

## Captus<sup>®</sup> 3000 Upgrade Package

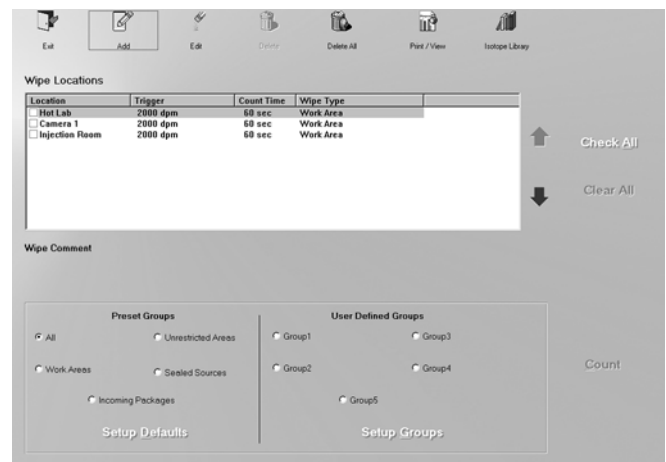
Capintec has integrated the latest software and hardware to produce our most accurate and efficient Thyroid Uptake and Well Counting system yet, the Captus 3000. If you currently have a Captus 600, 1000 or 2000 it can be easily upgraded to a new Captus 3000 and give you all of the exceptional functionality that goes along with it.

The Captus 3000 has a completely redesigned software package, with Quality Assurance, Thyroid Uptakes, Wipe Testing, Bioassay, Multi-Channel Analyzer and Lab Tests (Schilling, RBC Survival, I125 & Cr51 Blood Volumes). All of the functions are easily accessed through “Flyer Over” control bars (no searching for drop-down menus).

The modifications needed and the cost involved in upgrading an older Captus system will vary. Please contact your Capintec sales representative for the specific requirements to upgrade your system.



Auto Calibration Screen



Wipe Screen

ITEM #	DESCRIPTION
5430-0118	Captus Upgrade W/ New MCA Card
5430-0119	Captus Upgrade W/ out New MCA Card

## Captus<sup>®</sup> 3000 System Configurations

The Captus 3000 is a highly versatile system that can be configured to meet any Nuclear Medicine department's needs. The standard configuration comes with the mobile stand, the thyroid uptake probe and the drilled crystal well. Optional systems can be equipped with a thyroid probe only, drilled well only, a full tabletop arrangement with well and probe, a modified tabletop with probe or well, or a tabletop system with a wall mounted thyroid probe.

If one of these variations of the Captus 3000 doesn't meet your needs let us know and we will work with you in creating the most user-friendly and cost effective system for your department.



Captus<sup>®</sup> 3000 Table Top System



Captus<sup>®</sup> 3000 Well Counting System

ITEM #	MODEL #	DESCRIPTION
5430-0076	CAPTUS-3000	Thyroid Uptake Sytem Mobile Stand
5430-0077	CAPTUS-3000	Thyroid Uptake & Well Detector
5430-0103	CAPTUS-3000	Table Top Thyroid Uptake System
5430-0087	CAPTUS-3000	Table Top Thyroid Uptake System & Well Detector
5430-0106	CAPTUS-3000	Wall Mounted Thyroid Uptake System
5430-0107	CAPTUS-3000	Wall Mounted Thyroid Uptake System & Well Detector

## Captus<sup>®</sup> 3000 Custom Protocol

Capintec is very excited to introduce our new Custom Protocol Software for the Captus<sup>®</sup> 3000. The Custom Protocol works in conjunction with your existing Captus<sup>®</sup> 3000 to turn any user into a programmer.

As Nuclear Medicine moves forward, new and exciting diagnostic studies will be developed. With the Custom Protocol Software, it is remarkably easy to design and execute your own protocol to keep pace with cutting-edge research.

- Perfect for facilities that need to perform repeated protocols that are not widely adopted
- Gives you the flexibility needed to collect almost any type of data required for the study
- Perform simple or complex data analysis
- Create standard reports
- Available for use with all existing and new Captus<sup>®</sup> 3000 Systems
- Analysis and report generation is performed in Microsoft Excel
- Integration with Excel allows analysis of data and reporting to be at any level of complexity...it is completely user defined

The screenshot shows the 'Custom Protocols' dialog box with the 'Protocol Setup' tab selected. It features a 'Count Method' section with 'Live' and 'Real' radio buttons. Below is a 'Number of Measurements' input field. The 'Required Fields' section includes checkboxes for First Name, ID, Physician, Date of Birth, and Sex. The 'Optional Fields' section includes checkboxes for Height, Weight, Body Area, Comments, Dose Name, Dose Activity, Dose Volume, Tech ID, Assay Date, Assay Time, Dose Date, and Dose Time. There is an 'Additional Fields' button and 'Cancel' and 'Next' buttons at the bottom.

Captus<sup>®</sup> 3000 Custom Protocol User Defined and Optional Field

The screenshot shows the 'Custom Protocols' dialog box with the 'Protocol: CustomBloodProtocol' selected. It displays a form with fields for Patient Information (Last Name: Smith, First Name: John, Date of Birth: 11/07/1963, Sex: Male, Patient ID: 123456, Physician: Johnson), Physical Characteristics (Height, Weight, Area), and Assay/Dose Information (Dose Name, Activity, Volume, Assay Date, Assay Time, Dose Date, Dose Time). There is also a 'Comment' field and a 'Tech ID' field. 'Cancel' and 'Done' buttons are at the bottom.

Captus<sup>®</sup> 3000 Sample Custom Protocol

ITEM #	DESCRIPTION
0960-0152	Custom Protocol

## DICOM™ Compatibility for the Capintec Captus 3000

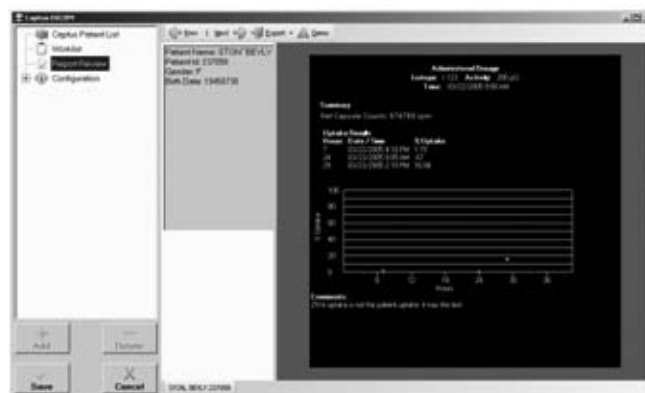
With Cap-DICOM™, the Capintec Captus® 3000 gains the advantage of DICOM connectivity.

Cap-DICOM™ adds DICOM modality worklist and DICOM export to the Captus® 3000. This solution allows patient information and demographics to be pulled from the Radiology Information System (RIS) or Hospital Information System (HIS), thus, reducing errors and time associated with the manual input of patient information.

Cap-DICOM™ creates a DICOM secondary capture image from information generated during the uptake procedure. The software exports the DICOM image files to a destination DICOM C-Store provider specified by the user. This destination may be a nuclear medicine workstation or PACS.

### FEATURES

- Configurable options integrate nuclear medicine into the RIS and PACS environment
- Ability to query the worklist provider by accession number, patient ID, patient name or date
- Intuitive, easy to read user interface to quickly sort and search the worklist
- Ability to correct patient information before exporting
- Ability to review final reports before exporting to a nuclear medicine workstation or PACS



Report View



User Interface

### SPECIFICATIONS

- Integrates the Captus® 3000 into a Dicom Radiology Information system and PACS environment
- Supports multiple vendors for nuclear medicine workstations, RIS and PACS systems
- Increases department efficiency and workflow
- Reduces errors associated with the manual input of patient information
- Increases accuracy of patient information in the PACS environment
- Merged uptake reports with thyroid scans can be displayed as a DICOM image
- Improved physician efficiency in interpretation and clinical review of the combined thyroid uptake report and imaging procedure

ITEM #	DESCRIPTION
5450-0003	Cap-DICOM™ Software