

# Application Note

Software Notes

SC-002

## RadMan™ Total Radioactivity Manager Software

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### RadMan Automatically Tracks Your Radioactive Waste

In laboratories where radioisotopes are used, it is essential to maintain records that account for all radioactive material brought into the laboratory. This includes keeping track of all radioactive material used in experiments, as well as the amount of radioactive waste that leaves the laboratory through various means of disposal.

Previously, such radioactive material usage and disposal records have been maintained entirely by manually entering the data into log books. However, Packard's RadMan Total Radioactivity Manager Software now makes the job much easier. With RadMan, you can automatically log and quantitate all counted radioactivity using the identifying parameters of instrument model and serial number, date, protocol number, user identification, material (solid or liquid), radionuclide and disposal location. RadMan also quantitates and tracks non-counted radioactive material that is separated from the counted material, such as in radioimmunoassays (RIA), or other experiments which involve separating bound, precipitated or filtered material.

### RadMan Provides Two Types of Radioactive Waste Reports

RadMan automatically prints a summary at the end of each protocol batch to provide an instant record of the amount of radioactivity contained in a batch of samples. In addition, by using RadMan's database, you can create and print detailed reports according to any of the stored identifying parameters. For instance, you can track the total amount of radioactive material that was counted in a specific counter, the total amount of <sup>32</sup>P counted for a specific date range, or even calculate the future quantity of radioactivity in the non-counted liquid you disposed

of into a specific waste container. This is particularly useful when aging short-lived radionuclides for future disposal, or when you need to determine the amount of radioactivity that will be in a disposal container when it is scheduled for transfer to a disposal site. RadMan offers many other possible combinations which you can use to accommodate your needs, along with customized reports designed for your specific department or institution, including a signature line.

### RadMan Simultaneously Tracks Your Instrument Usage

In addition to quantitating radioactivity usage, RadMan lets you keep track of actual instrument usage based on the counting time of each sample. This feature enables accurate tracking of instrument usage by different users, for purposes of proportionate sharing of maintenance costs, leasing costs, or to accurately determine the need for additional counting equipment. Each automatically generated batch summary documents the total batch counting time. The total counting time for all batches is stored in the database, and can be assigned to any of the identifying parameters to track total instrument usage.

### RadMan Is Versatile

To ensure a consistent report format, RadMan has been designed to work with a variety of Packard counting systems. It is compatible with the data output from many Packard Tri-Carb® LSC, Cobra® gamma, RiaStar® gamma and TopCountmicroplate counting systems. RadMan data are stored in ChroniCal™-compatible Paradox® 3.5 database format, thus they may be accessed by other commercial software.

RadMan can store data and print batch summaries online when installed on Packard systems equipped



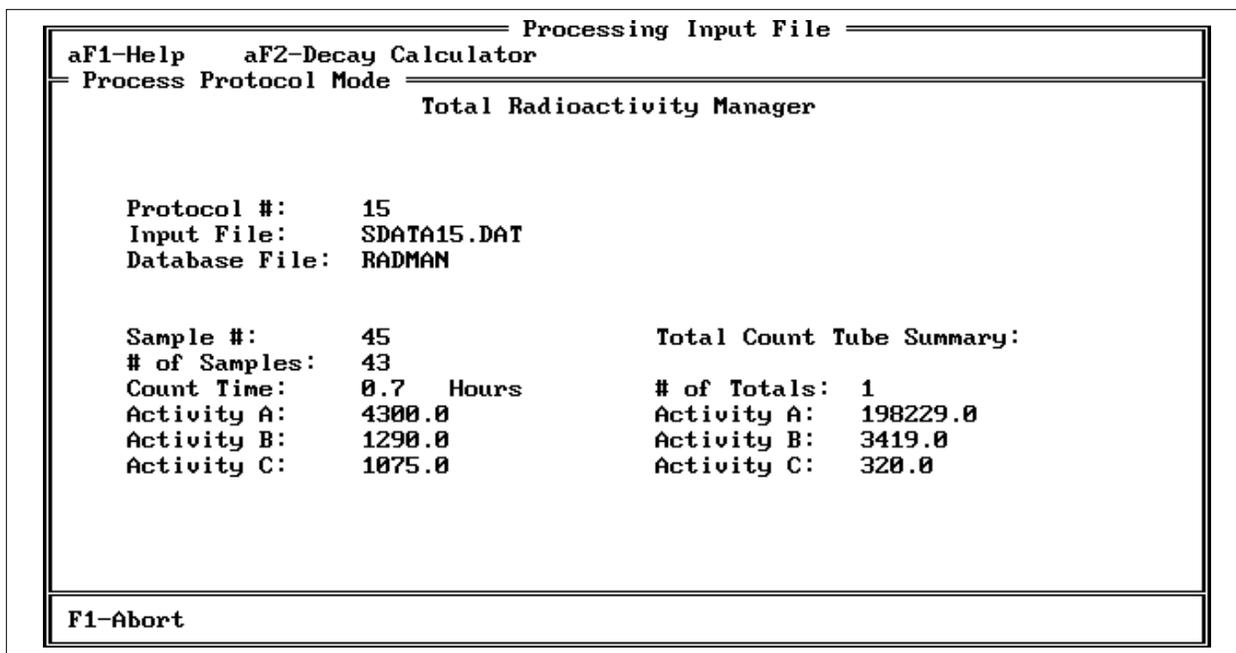
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ISO 9001  
SYSTEM  
CERTIFIED



**Figure 1.**

The RadMan protocol batch summary report tracks individual batch activity.

with automatic Tandem Processing™. Using systems with Tandem Processing also allows detailed report generation without the need of another computer. RadMan also operates off-line on non-dedicated computers, either by loading sample data into the database from floppy disks, or by connecting the computer to a network and sending sample data directly to an accessible hard disk directory.

RadMan's versatility allows it to run automatically in tandem with Packard's RiaSmart™ RIA software without requiring any modifications to either software program, and without requiring a batch file. Other software programs can also run automatically in tandem with RadMan, by using a simple batch file to link the programs together.

### RadMan Is Easy to Use

RadMan's random access conversation allows you to edit database storage protocols simply and quickly. On-screen, context-specific help messages speed you through RadMan setup and report generation, even if you haven't read the operation manual. Everything is in simple language, so you don't have to know much about computers. In fact, most of the information you need to enter is on one screen. Once you've established your libraries for user I.D.'s, radionuclides and disposal locations, you can simply call out the names you need from the libraries.

You can easily specify the location of one or more total count samples to account for non-counted disposed radioactivity, and identify its disposal location along with the disposal location for counted radioactivity. You may specify sample locations to omit by simply entering their location in the sample batch. Both liquid and solid waste disposal locations can be called from the disposal location library, so you can track these types of waste independently.

When you are ready to generate a report, you need only to define the parameters you want to include in the report; they are all on a single screen. Once you have defined what information you want in the report, you can preview the report to ensure that it contains the required information, and then simply print it.

Purging (removing) records from the RadMan database is as easy as storing them. You select records for purging using the same parameters that you used to store them. Even though the allowed number of records is limited only by the available space on the computer's hard disk, you should periodically remove records that are no longer necessary to save.



**Figure 2.**

RadMan activity reports are easily customized for your laboratory's needs.

## RadMan Features

- Automatic printout of counted sample batch summaries for each counted protocol.
- Automatic logging of instrument usage time.
- User defined reports based on: instrument I.D., user I.D., protocol number, date range, radionuclide, solid or liquid material, and disposal location.
- Identifies total count samples for calculating non-counted liquid or solid waste.
- Allows the exclusion of specific samples from waste calculation, such as backgrounds, sealed standards, etc.
- Automatic databasing of stored sample results.
- Importation of data files from floppy disk, built-in system hard disk, or a selected hard disk location on a network.
- Packard's exclusive "Smart Window" editing environment.
- User defined user identification library.
- User defined and editable radionuclide library.
- Radioactive decay calculator for creating radionuclide library.
- User defined disposal location library.
- User selectable record purging.
- Instrument-specific data storage with validation.
- Converts CPM results into DPM results using constant quench correction.
- Radioactivity units reported as DPM, microcuries, Becquerels, or all three.
- Automatic calculation of non-counted liquid or solid material.
- Up to eight lines of report header.
- Up to two lines of report footer (for signatures, etc.).
- On-screen Help windows.
- On-screen report preview before printing.

```

aF1-Help  aF2-Decay Calculator
-Directory
Total Radioactivity Manager

PH  Report Selection
1
3  Report Start Date? 01/01/1994
5  Report End Date?  07/09/1994
7  Protocol Number?  All
9  User ID?         M. LeSaec
11 Nuclide?         45Ca
13 Material?       Liquid
15 Disposal Location? Liquid Waste Drum 327
17
19 Activity Units?  Becquerel
21 Decay Correct?  Yes
23 Decay Date?    08/31/1994
25
27
29
F1-Exit  F2-Clear  F3-Preview Rpt F4-Print Rpt
F5-No    F6-Yes

F1-Exit  F2-Protocols  F3-Config  F4-Database
Edit Mode: Replace Field  11 Aug 94 15:34
  
```

**Figure 3.**

RadMan's single screen selection makes reporting fast and easy.

## Instruments Supported

- Tri-Carb liquid scintillation analyzer models 1600TR, 1900TR, 1905AB/LA, 2100TR, 2200TR, 2250TR/LL, 2260TR/XL, 2300TR, 2500TR, 2550TR/LL, 2560TR/XL, 2700TR, and 2750 TR/LL.
- Cobra automatic gamma counters.
- RiaStar manual gamma counters.
- TopCount microplate scintillation and luminescence counters.
- Data stored on disk from other selected Packard liquid scintillation counters and gamma counters may be processed via off-line RadMan operation, or using Packard's Applications Management Software (AMS).

## Minimum Computer and Software Configuration for Operating RadMan Off-Line

- IBM® compatible computer.
- At least 640 KB RAM.
- Hard disk drive with at least 4 MB available memory.
- VGA video display CRT.
- MS-DOS® version 3.21 or higher operating system.

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MS-DOS is a trademark of the Microsoft Corporation.  
Paradox is a trademark of Borland Software, Inc.

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aF1-Help  aF2-Decay Calculator
-Directory
Total Radioactivity Manager

PH  PURGE Record Selection
1
3  Record Start Date? 07/01/1994
5  Record End Date?  08/30/1994
7  Protocol Number?  All
9  User ID?         All
11 Nuclide?         222
13 Material?       Both
15 Disposal Location? P-32 Aging Drum 12
17
19
21 F1-Exit  F2-Clear  F3-PURGE  F4-All
23 F5-Nuclide Lib
25
27 - H-3, 96 Well Plates      28 - C-14, 96 Well Plates
29 - Cr-51 96 Well Plates    30 - Cr-51 24 Well Plates

F1-Exit  F2-Protocols  F3-Config  F4-Database
Edit Mode: Replace Field  11 Aug 94 15:35
  
```

**Figure 4.**

Purging records with RadMan is as easy as report selection.