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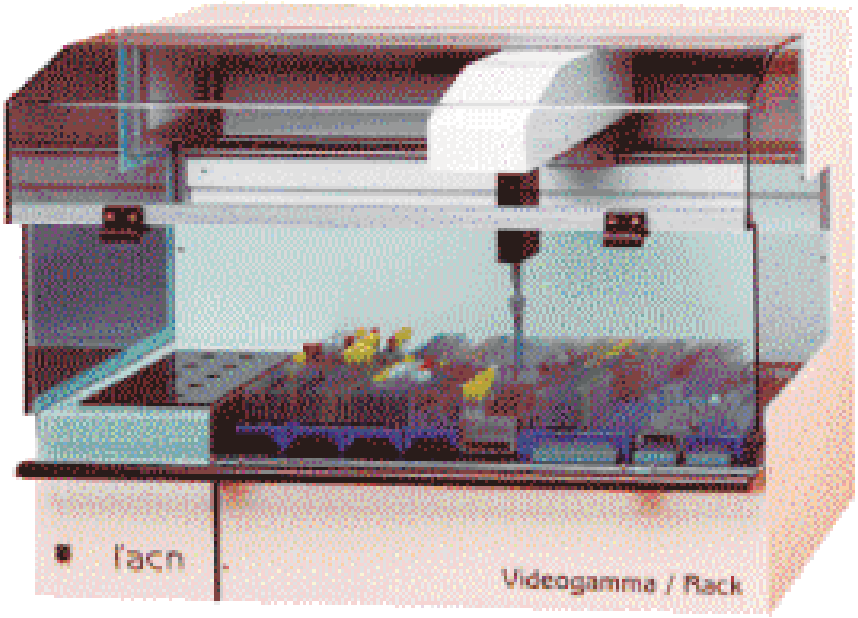
VIDEOGAMMA/RACK



The next gamma counter generation

* VIDEOGAMMA/RACK is the absolutely innovative gamma-counter which, first in the world, allows the measurements without the needing of downloading the tubes from their rack.
* It is the first that carries tubes from rack to detection system by an exclusive movable arm.
* For the first time, the detecting system (formed by one or more detectors), is located in an area different from the stand-by zone, thus cutting out any interference of radioactivity here present.
* In its technological innovation, VIDEOGAMMA/RACK adds the possibility of measuring any gamma emitting radioisotope, without any exception, thanks to its exclusive automatic search system of energetic peaks.
* Any personal computer linked by RS-232 universal serial port allows a great flexibility of use and the possibility of easily refreshing the software even for future evolution of data acquisition and processing.

An exclusive tube carrying system

- VIDEOGAMMA/RACK is the first RIA system not needing any operator's handling of the tubes.
- In the most little space. the operator simply leans the tubes rack and sets the operations on the computer. Any rack can be used, after setting its characteristics.
- VIDEOGAMMA/RACK will automatically carry the tubes from the rack to the detectors, thanks to an exclusive pliers, regardless of the presence of a stopper.
- Loading and downloading of the tubes are hold with the aim of minimizing elapsed time: for this reason both the operations are always integrated for performing a "full-load" run.
- In other terms, downloading a tube from the detector to the rack is followed immediately by the inverse uploading operation.
- The PC monitor always reports in a clear and simple graphic way any operation, thus giving an immediate information about the detection in progress.
- Practically, a colored map of the disposition of the tubes gives at glance the information about the tubes under detection, those already tested and those in standby.

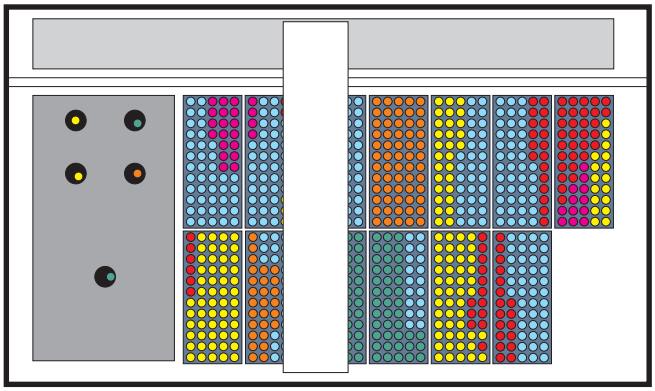
VIDEOGAMMA/RACK

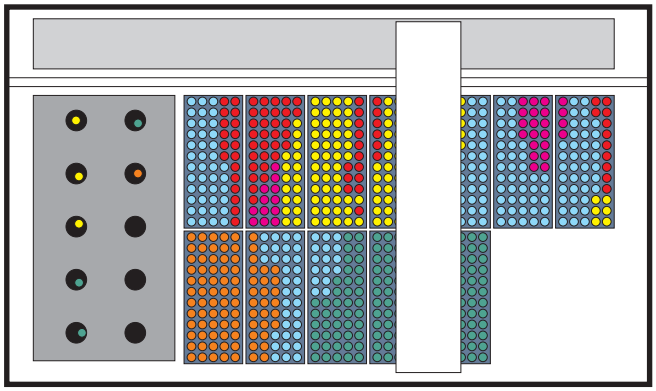
Models flexibility

- VIDEOGAMMA/RACK is offered in several models, according to the number of detectors used.
- The 1, 2, 4 or 8 detectors versions are indifferently available in the same mechanic shell.
- VIDEOGAMMA/RACK is also available with different kinds of detectors. Besides the classical RIA detectors for low energy one or more detectors can be added for measurements of high energy, as frequently requested in a center RIA operating in nuclear medicine. A typical example is the model VIDEOGAMMA/RACK-MN which uses four 1,5" x 1,5" detectors for RIA measurements and one 3" x 3" detector to measure for example Fe99 or Cr51 to study iron-kinetics or emazies survival.

Special configurations

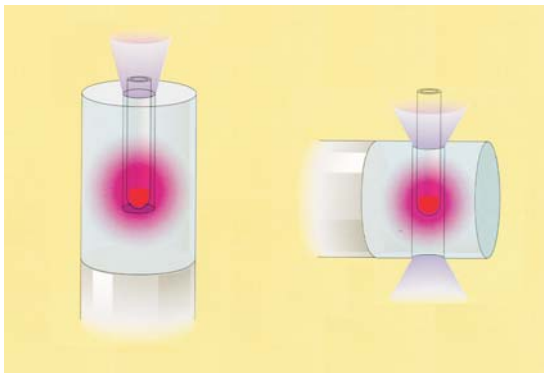
The pictures show Videogamma Rack models top view, at right the classic model with multiple detectors for RIA measurements, at left the model with four standard detectors plus one detector to measure mean and high energy gamma emission.



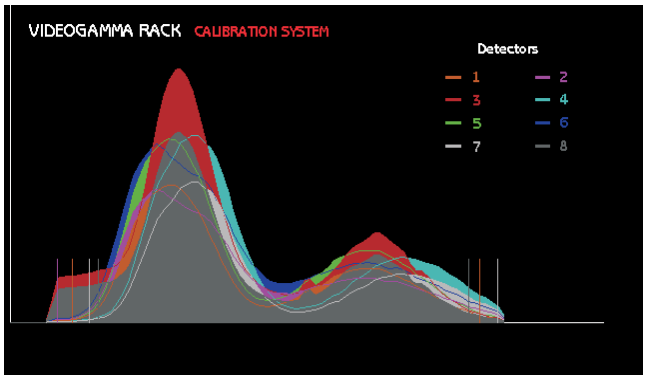


Zero Cross-Talk

Best efficiency



Automatic calibration



Possibility of measuring any gamma-emitting isotope

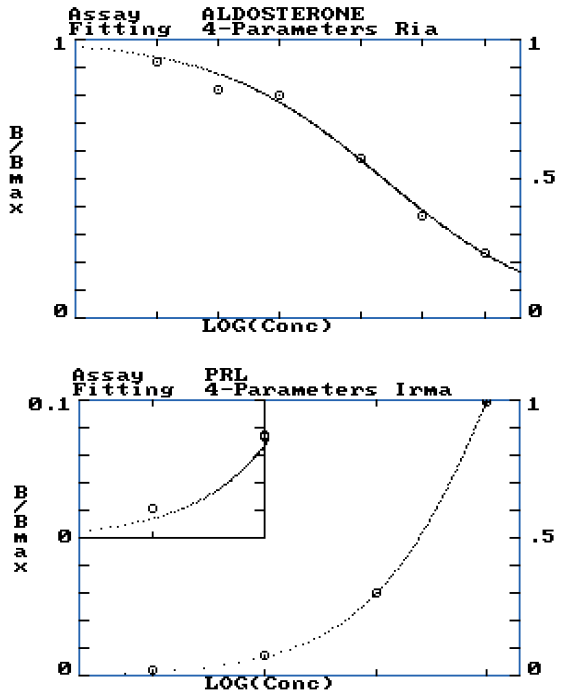
- VIDEOGAMMA/RACK uses a shielded detectors matrix, so to avoid cross talk interference between detectors or between standby area and detectors.
- VIDEOGAMMA/RACK, more, thanks to its exclusive software, can automatically select the measure channel of any gamma-emitting radioisotope. The calibration can be done either by a simple and automatic calibration sequence before any test, or by software recalling of the previous calibrations.
- VIDEOGAMMA/RACK can show in real-time on the monitor the energetic spectrum of the tested isotope, just like it is acquired by any detector.
- Easiness of spectrum acquisition, best shortness of elapsed measure time (about 1 min). for the contemporary analysis of all detectors, allow a continue -even daily- control of VIDEOGAMMA/RACK, for getting top efficiency and reliability.
- Increase efficiency by 4π geometry of well counters, see figure at left top.

VIDEOGAMMA/RACK

RIA and Radioactivity Measurements

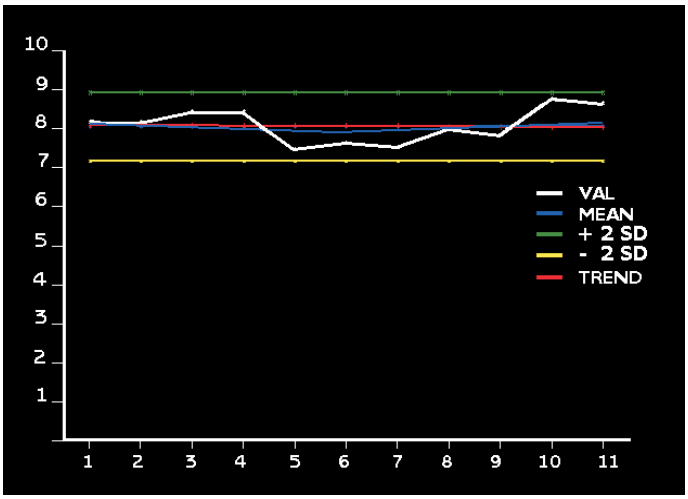
- VIDEOGAMMA/RACK exploits the complete RIA program library set up by L'ACN since its foundation in 1975. It is possible to find acquisition and data processing programs for:
    1. RIA/IRMA tests.
    2. Hepatitis.
    3. Allergology.
    4. Fittings: POINT-TO-POINT, PARAMETERS, LOGIT-LOG, SPLINE.

- Only VIDEOGAMMA/RACK offers even the software for the calculation of the activity in any tube expressed in Bq.



Quality Control

The quality-control program can represent clearly and immediately the temporary trend of 9 parameters for any RIA test in graphics mode.



Technical specifications

- DETECTION SYSTEM: From 1 to 10 NaI(Tl) detectors, Ø 1½ inch, well type Ø 16 mm, H 20 mm. Different dimensions detectors are available on request.
- GAMMACOUNTER SYSTEM: movable arm which, by a pliers, collects the tubes from their standby rack to the detectors.
- CAPACITY: up to 864 samples, accordingly to the dimensions and characteristics of the used rack.
- MEASURE SYSTEM: complete with H.V. unit and as many mono-channel analyzers as the number of detectors.
- AUTOMATIC SELECTION of measure channel for any detector by standard protocol for search of the energetic peak and normalization of any detector efficiency.
- CONNECTION by RS232C Serial Port to any DOS or WINDOWS compatible PC.
- Dimensions (W,H,D): 97 x 76 x 68, weight of standard model: 70 kg ca.

Software

- VIDEOGAMMA/RACK has no hardware command but the safety button and the On-Off switch.
- It is checkable by its own selection software, which form part of the system.
- It has an exclusive database system which allows a daily recording of the measures hold. It is possible at any moment to go back to any test previously done and reanalyze it with different procedures.

VIDEOGAMMA/RACK

rev.09/2005

Control and Verifying

- Automatic procedures allow to verify:

  1. The functionality of the motors used for the moving of VIDEOGAMMA/RACK arm.
  2. The system calibration by the energetic pick automatic centering of any detector.
  3. The count efficiency and reliability of any detector, with verifying of standard deviation of any measure sequence, set by the operator willing.

Models

- VIDEOGAMMA/RACK 1, 2, 4, 6, 8, 10: respectively with 1, 2, 4, 6, 8, 10 detectors for low energy RIA measures.
- VIDEOGAMMA/RACK-S: all-purpose system, with 1 or 2 detectors for low-middle energy (up to 360 keV - ^{131}J with lead shield of 5 cm at least in any direction).

Data acquisition and processing

- Illimitated protocols for Radio Immune Assay (RIA)
- Procedures of automatic setting of 9 simultaneous measure groups, with preselection of measure timing, type and its fitting curve.
- Interpolations: POINT-TO-POINT, 4 parameters, SPLINE, LOGIT-LOG.
- Measure procedure for calculating the activity in any tube in Bq.

Quality control

- On-line, with presentation of results and comparison with previous acquisitions.
- Graph with CV% presentation and 9 comparison parameters trend for any kit tested.

VIDEOGAMMA basic models

Videogamma 8480

VIDEOGAMMA 8480 is an automatic gamma counter which combines the high measurement capacity of 480 tubes with 8 detectors to reach a measurement rate of 400 tubes/ hour. This gamma counter can also supply more precise measurements than those performed with a one detector system.

Videogamma 1250

This is the most classical automatic gamma counter. It is designed for maximum Reliability. VIDEOGAMMA 1250 has 250 tube holders and may perform more than 500 measurements per day in normal working conditions. It can be considered the basic instrument for every RIA laboratory.

Technical specifications

Technical caracteristics are the same of Videogamma Rack with this differences:

- Detect sistem: from 1, 4, 8 NaI(Tl) detectors, Ø 1½ inch, trough hole Ø 16 mm, H 20 mm.
- Moving sistem: by chain.
- Capacity: 250 samples (mod. 1250), 480 samples (mod. 1480/4480/8480).
- Dimensions and weigth (L,A,P): 60 x 60 x 30, 40 kg ca. (mod. 1250)
  80 x 60 x 30, 60 kg ca. (mod. 1480/4480/8480).

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