

room for about an hour and a steel-shielded room is inconvenient to scanning motion of the detectors.

Medium-level human counter was designed by us which had four 3×2 inch NaI (Tl) crystals instead of single large crystal and was able to be used in several ways in addition to whole body counting as in the following.

- A. Whole body counting
- B. Temporal scanning
- C. Linear scanning

- D. Area scanning
 - 1. Multi-cut off
 - 2. Multi-dot
 - 3. Multi-nuclide
 - 4. Lamino
 - 5. Polyamino
 - 6. Isosensitive
 - 7. Coincidence

The principles were outlined. We should like to call it "Medical Universal Human Counter (MUHC for short)".

Development of Medical Universal Human Counter

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Medical universal human counter consists of the following units.

1. Four 3×2 inch NaI (Tl) crystal scintillation detectors
2. Four shielding devices made of tungsten heavy alloy and lead
3. Four sets of several collimators exchangeable for purposes of many kinds
4. Four stands of detectors having flexibility of a position and an angle
5. A scanning table
6. The scanning device of which rods are able to be connected with detectors
7. Four single channel spectrometers
8. A counting scaler
9. A coincidence and anti-coincidence analyser
10. Four contrast amplifiers
11. Scintigram recording device with four multi-dot heads controlled by servomechanism
12. A four channel electric recorder

For the purpose of whole body counting, four detectors are placed above or beneath

the bed and supporting stands are braked. The signals from four detectors are mixed and fed to a spectrometer. Output signals from spectrometer are counted with a six-decades scaler.

For area scanning, one to four detectors are connected with the rod of scanning device and moved back and forth across the scanning table. The table is also moved stepwise along the longitudinal axis. Combined motion of detectors and table is controlled automatically as rectilinear scanning. Signals from detectors are mixed and fed to one or four spectrometer. Output signals from spectrometers are supplied to our contrast amplifiers and then to scintigram recording device. Four multidot recording heads are controlled by servomechanism.

For linear (profile) scanning, two detectors are placed above and the other two beneath the table and the supporting stands are braked. The table of scanning bed is moved automatically along the longitudinal axis. Signal is fed to electric recorder through the ratemeter of spectrometer.