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Title:	Portal Monitors Data Handling and Processing
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Portal Monitors

Data Handling and Processing

November Exercise

- UNARM device pressed into service
  - Large storage capacity (SD card), sub-second acquisitions, externally-available status indications
  - Configuration and testing difficult, no real-time monitoring other than single-bit outputs (LEDs)
- Lots of data generated
  - ~ 20 MB/day, much of it uninteresting
- SD card issues
  - Compatibility, reliability
  - Reproduction, authentication

November Exercise (continued)

- Analysis using Radiation Review
  - Additional step to import data
  - No integration with other sensors
- Video data
  - Separate camera system
  - Clocks in cameras and portal monitors not sync'd
  - No easy way to combine video and radiation data
  - Lots of video data, much of it uninteresting

Improvements

- New detector electronics
  - Smaller, lower-power, simpler, much cheaper
- Integrate video and radiation in portal monitor
  - Camera with fisheye lens and distortion-removal software
  - Camera and detector electronics time-sync'd
  - Camera records still images at two rates
  - Does not preclude separate video system

Improvements (continued)

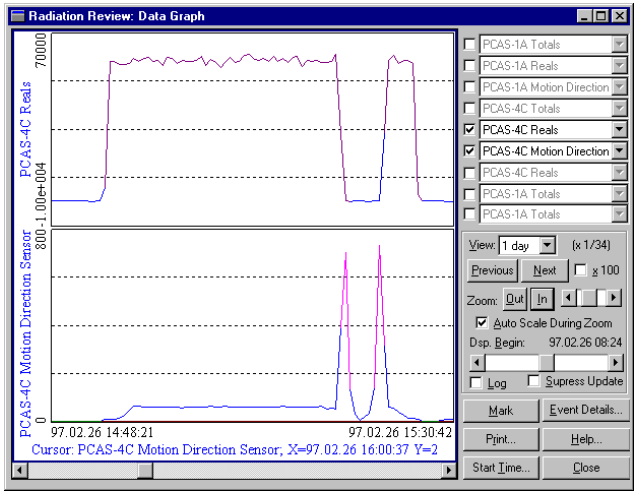
- Integrated tablet
  - Serves as data collector and real-time display device
  - May collect from multiple devices
  - Data stored securely (authentication / encryption?) after collection
  - SD card in device still available as backup if desired
  - Tablet may be undocked for offline review / data sharing
- Review software on tablet
  - Also runs on desktop system
  - Radiation data and video images sync'd based on timestamps
  - Automated discovery of radiation and video events

Improvements (continued)

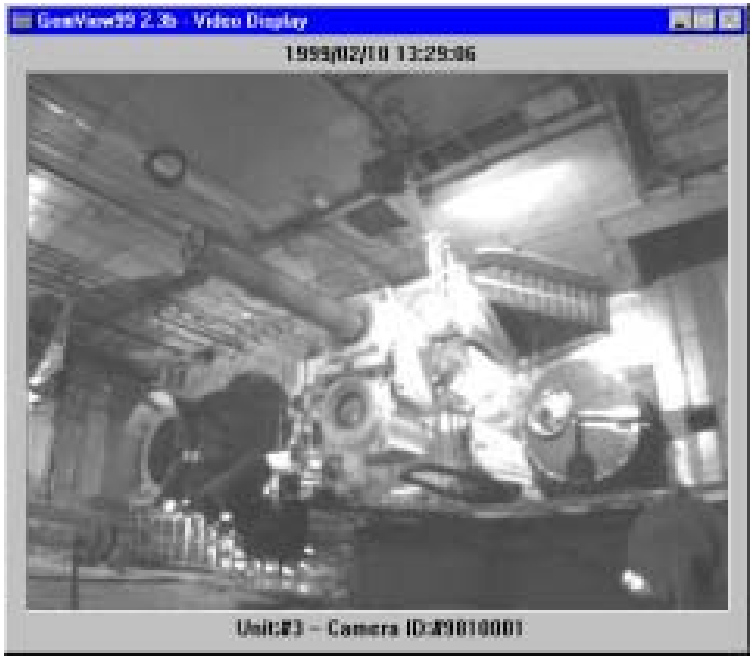
- Issues
  - Wifi on tablet

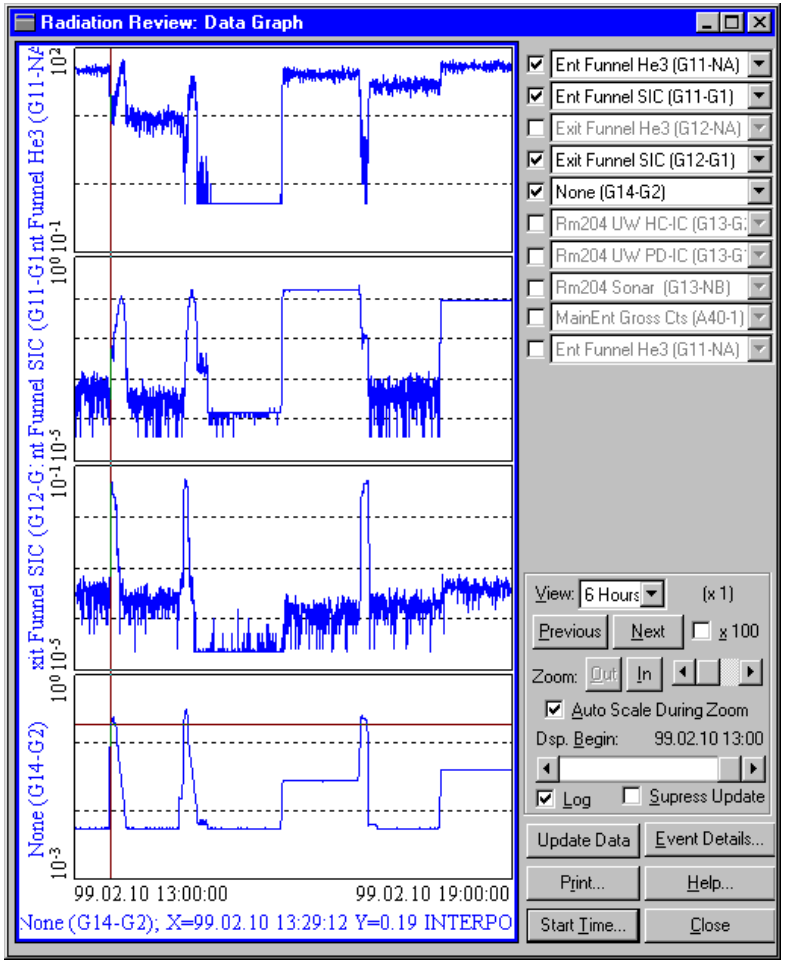
Radiation Review

- Automated event discovery
  - Radiation Review
    - Visual indication on graph
    - Table of events may be printed or written to file



Integrated Review





Integrated Review (continued)