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Cambio

A File Format Translation Application for the Emergency Nuclear Response Community

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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,
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What is Cambio?

Cambio is an application intended to automatically read and display any spectrum file of any format in the world that the nuclear emergency response community might encounter – including unknown types.

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Why is Cambio needed?

- **Cambio solves the problem that with over fifty types of formats from instruments used in the field and new format variations appearing frequently, it is impractical for every responder to have current versions of the manufacturer's software from every instrument used in the field.**
- **Cambio converts field spectra to any one of several common formats that are used for analysis, saving valuable time in an emergency situation.**
- **Cambio provides basic tools for comparing spectra, calibrating spectra, and isotope identification suited especially for HPGe spectra.**
- **Cambio has a batch processing capability to automatically translate a large number of archival spectral files of any format to the DHS N42 format.**



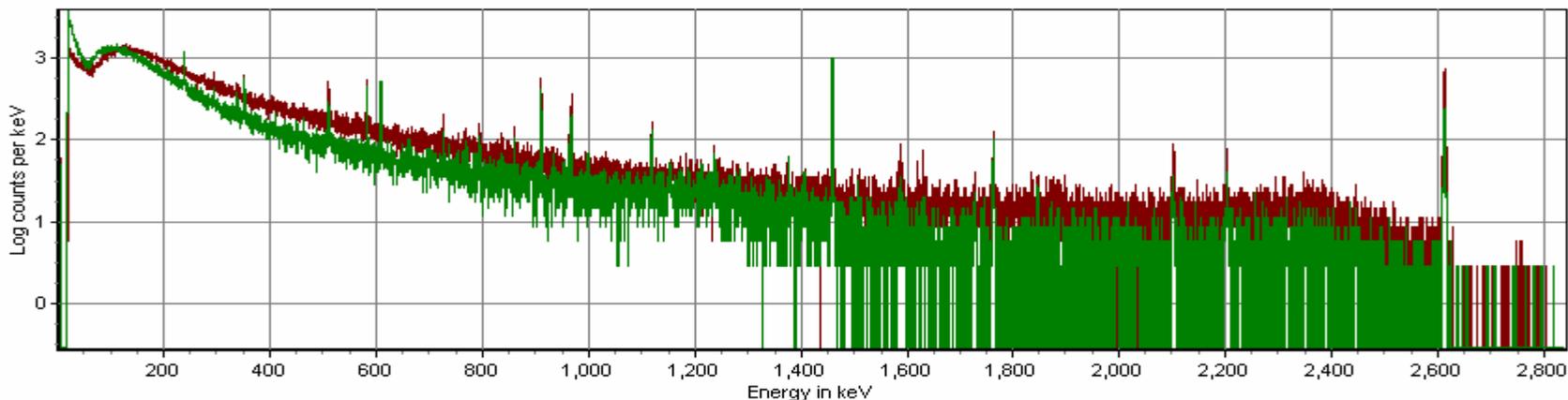
Who uses Cambio?

- **Currently over 170 analysts and members of the nuclear emergency response community are on the distribution list for updates to Cambio.**
- **Cambio users come from DHS (CBP, LSS, Secondary Reachback, NTC), DOE (Labs, RAP teams, HQ, Triage, JTOT), FBI, Coast Guard, DoD, IAEA, and other organizations at federal and local levels of government and from industrial partners that support government efforts.**
- **Cambio is unrestricted unclassified and distributed by FTP downloads with email notifications approximately every 6 weeks as new formats are identified and new capabilities are provided.**

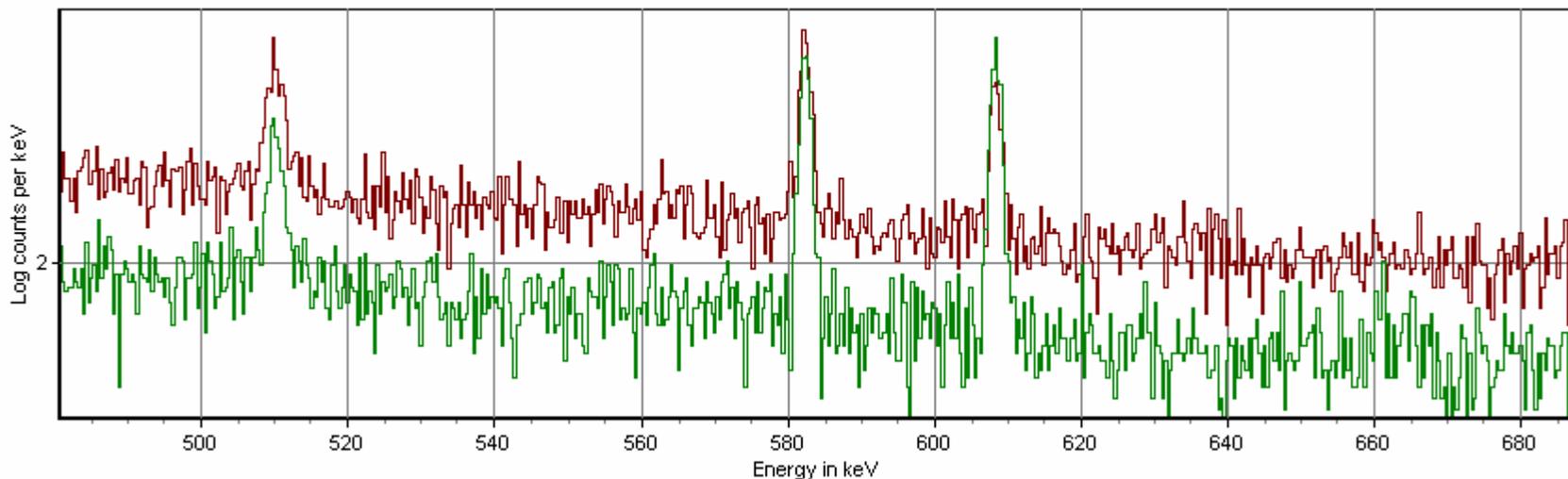


Cambio Graphics Help Identify Spectra

Primary: site spectrum 09-11-03.chn Live time: 567.14 sec True time: 600 sec Date & time: 09/11/03 07:09:55 Reference: site bkgd 09-11-03.chn



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Cambio Formats as of 6 Feb 2006

- ANSI N42.42
- Aspect MKC (A-02, A-03)
- Berkeley Nucleonics SAM-935 with QCC decompression and linearization
- Berthold LB-125 (includes multi-record files)
- Canberra CAM format (*.cnf) (includes detection of “counterfeit” variants)
- Canberra Accuspec (*.dat)
- Canberra Programmers Toolkit (*.tka)
- Canberra Inspector 1000 specific CAM format (*.cnf)
- CTC “MCS”
- Davidson (4 variants)
- Exploranium (multi-record files): Gr-130, Gr-135 v1 (2 variants), Gr-135 v2 (2 variants), ASCII (3 variants)
- FieldSpec (now IdentiFinder): Native SPC, FieldSpec-N variant, SPE
- GADRAS (includes multi-record files): PCF, PCC (RAID, RIS, SMART), ASC
- IAEA Generic SPE; Mini-MCA (*.spe); 3 methods date and time; 3 polynomial energy calibration; energy calibration from a series of channel-energy pairs
- LANL: GN-2 (multirecord); GN-3 (4 variants) (multi-record); Palm Pilot
- Ortec: CHN, SPC (both integer and floating), SPE, Print-to-file ASCII
- PDR-78 (file extensions are actually sequence numbers)
- PGT Avalon (*.ans): Revision 1; Revision 2 and above
- Quantrad Ranger (multi-record)
- Rainbow Model 7010
- RobFit (FREE, HDTA, Z4DA; real and integer)
- SAIC RadSmart
- STE Pager-X
- STL Cadillac (ASC and CSV)
- STL Yugo
- Target NanoSpec
- XIA Polaris (*.itx)
- XRF ICS-4000 (2 variants)



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How to get on the distribution list

- Send an email to George Lasche at [gplasch @ sandia.gov](mailto:gplasch@sandia.gov)
- No restrictions
- No fees
- No questions asked

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