



An information publication from the EMF NET project
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Effects of the Exposure to Electromagnetic Fields:
From Science to Public Health and Safer Workplace
Coordination Action 8. Policy Support and Anticipating
Scientific and Technological Needs



Occupational exposure fact sheet

Hand held Magnetic Reactivator

There are different kinds of RF- and ELF tag reactivation and deactivation systems for library purposes. The one this fact sheet is dealing with is a popular ELF hand held reactivator for activating the book tags in libraries.



The fundamental operating frequency of the device is 50/60 Hz and the power output 125 W.

This kind of reactivators allows the library staff to activate book tags in a fast and simple way

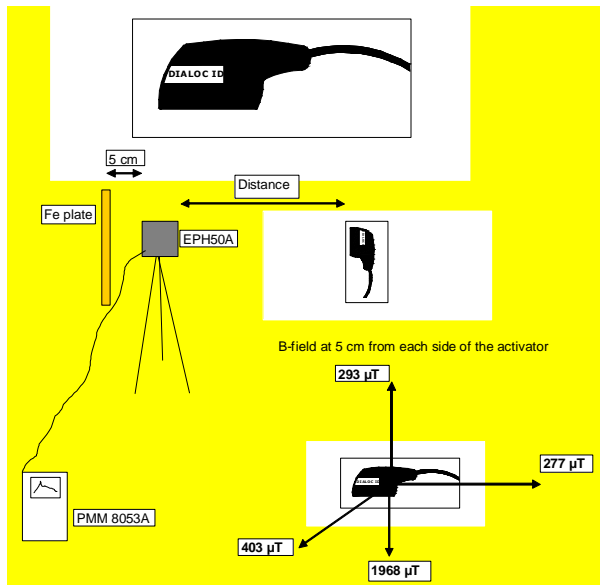
by taking the books on one arm while gliding the reactivator over the tag side of the books.



Though this method seems to be the fastest and most convenient for the operator, the disadvantage of it is that the chest of the operator may be exposed locally to strong magnetic induction fields, certainly when the

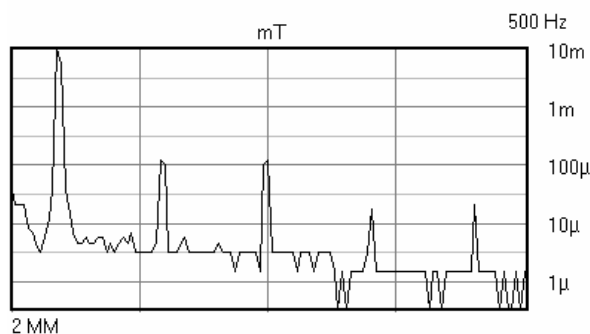
reactivator touches the operator's chest while activating the tags of the books.

In order to investigate the possible exposure the magnitude of the magnetic induction field (B-field) has to be measured at the four sides of the reactivator.



The B-field is especially high at the bottom side (± 21 mT on the bottom and 2 mT at 5 cm) of the device and moreover it generates a substantial amount of harmonics

EHP 50 22.05.06 14.46.55
Level: 20,55 mT (Wide Band)



Because of the harmonic content, compliance with the reference limits has to be concluded on

base of the summation formula. Though no health effects have been associated with the activators, operators can however protect themselves against the high B-field exposure at chest's level by gliding the reactivator over the tag after the books are placed on the tabletop..



Passive mitigation for protecting the hand that holds the reactivator is not obvious and should if necessary be investigated on base of efficient shielding materials.

An information publication from the EMF NET project
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