

The MFM Format

IASA ~ Magnetic Field Mapper' s Data Storing Protocol

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The data storing format of *MAGNETI.BAS* follows the ASCII coding and it can be read almost by every word processing or graphics application. The protocol is simple and functional as it is based on general rules of data storing. The files have the extension MFM (Magnetic Field Mapping) by default. The structure is easy to understand. Every file has a header and a group of control fields. Then it has the field's data and finally some information and remarks.

- ❖ File's identity, 3 bytes, long, "MFM"
- ❖ File's version, 1 byte long
- ❖ File size (= 0 Call BIOS to learn)
- ❖ Time among different points
- ❖ Where data start in the file?
- ❖ Compression code (= 0 no compression defined for version 1.0.0)
- ❖ x-axis length
- ❖ y-axis length
- ❖ z-axis length (= 0 because the mapper maps 2D areas at the moment)
- ❖ Color of field lines (for visualization applications)
- ❖ Background color (for visualization applications)
- ❖ Interpolation algorithm during visualization (= 0 not defined yet)
- ❖ Teslameter' s Digital Filtering On/Off (YES/NO)
- ❖ Units (G=Gauss, T=Tesla)
- ❖ Digital Filtering Window Parameter
- ❖ Scanning Step
- ❖ x-start
- ❖ y-start
- ❖ z-start
- ❖ x-end
- ❖ y-end

- ❖ z-end
- ❖ Measurements per point
- ❖ Time to wait among measurements on the same point
- ❖ “START” flag for the magnetic field data
- ❖ Data (x,y,z, **B** field Value, Temperature Value)
- ❖ “END” flag Ελάχιστη τιμή της **B** for the magnetic field data
- ❖ **B** maximum value
- ❖ Scientist’s name (the one who mapped the magnet)
- ❖ Laboratory’s name (where magnet was mapped)
- ❖ Mapping data
- ❖ Mapping time
- ❖ Few comments

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