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Network & Engineering Working Group



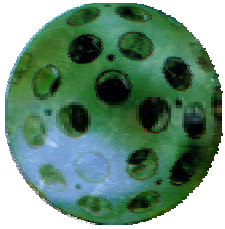
Engineering Data File [EDF] Format(s)

What is required?

- We need some 100 parameters 😊
- Each station has to store:
 - A set of parameters COMMON to all stations (Met, Cal, RMS
 - A set of parameters SPECIFIC to few stations (SR620 or ET or HP..)
 - A set of parameters UNIQUE to a single station (Special Equipment ..)
- We need high flexibility:
 - Easy add-on of new parameters, ideas, instruments ...
 - Must not require any new effort at non-involved stations
 - Must allow for continuous use of ALL data of FULL history ...
- We need easy implementation at the stations:
 - No tricky formatting;
 - No special treatments, lines with 1000 characters, no lots of Zeros
 - Flexible upgrades / changes / additions

How to establish such a system? A possible idea:

- Step 1: Define a Setup-File: Assigns a UNIQUE number to EACH parameter:
 - Maintained centrally, by a single person, or by the WG;
 - Assigns a number (e.g. 1-1000) for any parameter;
- Step 2: Store PAIRS in EDF: #, parameter, #, parameter, #, parameter,
- Standard ASCII file; all values separated by commas (CSV format), or separated by semicolons (#,value; #, value; #, value; etc)
- All values in FREE numerical format (only fixed units, like ps, Volts etc.)
- Can be in ANY order;
- Can be changed at ANY time;
- Is extremely flexible;
- Can be read by simple programs, which extract desired parameters;
- Read programs can be DOS (C, Fortran), Windows (Excel etc);
- Simple plot programs, simple Auto-Check Programs;
- Each station needs only storage place for its OWN parameters



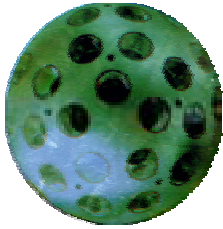
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Example for the UNIQUE EDF FORMAT File :

- 1 Date of measurement
- 2 Time of measurement
- 3 Station number
- 4-6 Met values
- 7 Mean Cal value
- 8 RMS
- 9 # of raw measurements
- 10 # of remaining measurements (e.g. after Sigma iteration)
- ...
- ...
- 20 Skew
- 21 Peak-Mean
- 22 Kurtosis
- ...
- 50 Laser data
- ...
- 70 Epoch timing data
- ...
- 100 SR620 Setup items
- ...
- 120 HP Setup items
- ...
- 130 Dassault Setup items
- ...
- 200-300 Station specifics
- ...
-
- ...
- 999 Place for many variables



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Example for the Engineering Data File (Blanks only for readability):

1, 2003:04:11, 2, 17:59:59, 3, 7839, 4, 1013.25, 5, -1.17, 6, 99.9, 7, 123456, ...
1, 2003:04:11, 2, 18:59:59, 3, 7839, 4, 1014.257, 5, 22.3, 6, 100.000, 7, 123457, ...

Advantages

- Relatively simple to implement at each station:
 - o Just store your values, together with the assigned number, in ANY order ...
 - o Use a common simple program to extract the desired values; then make a plot using any standard programs (ppt, xls, etc.); freely available from WG
 - o Or use a simple Excel Script to extract and plot all desired values; such scripts can be made also available by the WG (Van?)
- The OWN EDF can be used at each station:
 - o To check **automatically ALL values** once per day:
 - Any limits exceeded ?
 - Any drifts detected ?
 - Any jumps in any time series?
 - o In Case: Automatically set some alarm, send yourself an Email etc.
- The OWN EDF can be used also by some CENTRAL CHECKING PROGRAMS:
 - o It is sent automatically each day to the center, overwriting the old file there; or just send some daily file, to be concatenated at the centre
 - o It is also checked automatically there for consistency, jumps, drifts
- The OWN EDF could be used also by any ANALYSIS CENTER:
 - o Everybody has access to the files;
 - o Everybody can use the programs to check for drifts, jumps etc.;
 - o It is easy for any analysis group to cross-correlate then any events, drifts ...
- ALL EDFs could be downloaded by ANYBODY, to make comparisons:
 - o I would like to cross-check all other stations using SR620
 - o What is the effect at Station X, going from 35 to 10 ps laser pulses?
 - o Etc. etc.