SAC header necessities (as discussed on Friday 16.10.2009)

Field name: Short description:

DELTA= 0.005   Time step (in seconds)
SCALE = 1.0   Keep always 1.0
B = 0.   Time shift (in secodns) with respect to time stored in fields: NZYEAR,
                               NZJDAY, NZHOUR, NZMIN, NZSEC, NZMSEC. Always keep zero!
E = 1800.   Duration of time history in seconds
STLA = 46.1625671   Station latitude (WGS-84)
STLO = 7.7786188   Station longitude (WGS-84)
STEL = 2189.187976   Ellipsoidal height (WGS-84)
USER7 = 626260.75   Swiss coordinate – east
USER8 = 112400.046875   Swiss coordinate – north
USER9 = 2137.9199219   Station elevation (Orthometric height) – Swiss grid.
CMPAZ = 0.   Component azimuth (0 for north component, 90 for east component, 0
                               for vertical component)
CMPINC = 0.   Component inclination (90 for north component, 90 for east component, 0
                               for vertical component)
NZYEAR = 2009   Year (integer)
NZJDAY = 217   Julian day (integer)
NZHOUR = 14   Hour (integer)
NZMIN = 0   Minute (integer)
NZMSEC = 0   Millisecond (integer)
NPTS = 360000   Number of time steps
KSTNM = WAL10307   Station code – array WAL1; ring 03; station 07
KCMPNM = Z   Component name (N, E, Z)
KNETWK = CH   Network code

List of required fields (by SAC2000, or other programs) can be found, e.g., here:

http://www.iris.edu/manuals/sac/SAC_Manuals/FileFormatPt2.html

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Conversion of coordinates:

PROJ.4 - Cartographic Projections Library (free library, available in Linux repositories)

CH > WGS84
echo '626260.75 112400.046875 2137.9199219' | cs2cs -f %.6f -s +init=world:CH1903
+towgs84=674.374,15.056,405.346 +units=m +to +proj=latlong +datum=WGS84

WGS84 > CH
echo '46.16256752 7.77861871 2189.18797578' | cs2cs -r -s +proj=latlong +datum=WGS84 +to
+init=world:CH1903 +towgs84=674.374,15.056,405.346 +units=m