Name	CALIBRAT
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1 The CALIBRAT system

The CALIBRAT system consists of three programs:

RESPONSE calculates the response function of a complete signal chain from seismometer/ geophone via preamplifier and filter stages to analog or digital recorder. This response is represented as a plot of amplitude/phase versus frequency (Bode-Diagram) or as Poles and Zeros.

CALISEIS calculates missing seismometer parameters by step response, and it designs the electronic scheme of the preamplifier stage as well as the calibration inputs to the seismometer and preamplifier.

SEISFILT designs single and complex electronic filter stages.

A more detailed manual of CALIBRAT will be made available on the new MSOP web page via http://www.seismo.com as an annex to Chapter 5. The full information about CALIBRAT (program description, source code, examples) can be downloaded from the ftp-server: ftp.gfz-potsdam.de/pub/home/dss/brib/calibrat.

2 System requirements

The programs run on any PC of IBM™ type under DOS 3.0 or higher. A 640 kByte memory is sufficient for compiling with Turbo Pascal 5.

3 Programs

3.1 RESPONSE

RESPONSE calculates Amplitude and Phase Response
of Seismometer-and-Filter Networks
via Parameters such as Corner Frequency, Damping, Amplification
or via Poles and Zeros
or via given RC-Networks applied to Operational Amplifiers

RESPONSE stores the results on disk
as Parameters
or as Poles and Zeros
or as Triples of Frequency, Amplitude and Phase

RESPONSE plots to Screen or Printer
Amplitude and Phase
versus Period or Frequency or Angular Frequency

3.2 CALISEIS

CALISEIS is developed for Seismometers/Geophones with a magnet-coil transducer.

CALISEIS calculates Seismometer and Geophone Interface (electronic amplifier interface)
as Preamplifier, Damping and Calibration Resistor Network
via given Parameters
or via analog Time Series of the damped Seismometer
for given Preamplifier Output
and for given Calibration Sources

CALISEIS plots to screen or to Line Printer the electronic scheme
of Application of Damping and Calibration Network
to Operational Amplifier

CALISEIS prints the electronic scheme parameters
as Schedule of Parameters
and Schedule of Network Resistors

3.3 SEISFILT

SEISFILT calculates Filter Parameters
of single stages of first or second order filters
or of Butterworth LOW Passes up to 32nd order
or of Bessel LOW Passes up to 12th order

SEISFILT calculates and prints
RC-Filter Networks
for Operational Amplifiers

SEISFILT stores
Filter Parameters
as '*.par'

The output files '*.par' of SEISFILT are compatible with the input files of the program RESPONSE.

The electronic filter circuits designed by SEISFILT can be directly connected to the preamplifier circuit designed by CALISEIS.