RadExPro 2015

seismic software

Technical Specification

	Start	Professional
I/O		
Input data from SEG-Y, SEG-2, SEG-B, SEG-1, SCS-3 files, with optional header remapping	X	X
Input data from SEG-D and FairFieldNodal Receiver Gather files, with optional header remapping		X
Input GPR data from LOGIS, Zond, RAMAC/GPR, GSSI, Pulse EKKO formats	X	X
Input trace from ASCII file	X	X
Input data from user-defined demultiplexed format with trace header information	X	X
Reading data from tapes	X	X
Data output to SEG-Y files	X	X
Geometry assignment		
Import from ASCII	X	X
Import from SPS and UKOOA P1-90 files		X
Calculation using built-in equation calculator	X	X
Display and editing using built-in spreadsheet editor	X	X
Dedicated module for near-surface geometry assignment	X	X
Dedicated module for marine geometry assignment	X	X
Dedicated module for VSP geometry assignment		X
Crooked line 2D/3D binning		X
Trace editing		
Resample	X	X
Kill trace	X	X
Zero-padding	X	X
Inverse	X	X
Muting	X	X
Trace length change	X	X
Header fields manipulations		
Mathematical operations	X	X
Spreadsheet editor	X	X
Import from ASCII files, export to ASCII	X	X
Smoothing average	X	X
Shift of header values to specified number of traces	X	X
Header NMO/NMI	X	X
Surface-consistent calibration (e.g. for static shifts or amplitude values)		X
Graphs	X	X
Cross-plots and histograms		X
Dataset combining		
Trace-by-trace subtraction/addition of 2 datasets	X	X
Vertical merge of 2 datasets along a horizon		X
Amplitudes		
Amplitude corrections: linear (spherical divergence), exponential, automatic gain control (AGC), trace equalization, time-variant gain	X	X
AGC removal	X	X

Ensemble equalization	X	X
DC removal	X	X
Statics		
Elevation statics calculation	X	X
Residual statics calculation		X
Maximum power autostatics		X
Correlation statics calculation		X
Apply statics	X	X
Deconvolutions and spectral shaping		
Signature	X	X
Zero-phase	X	X
Predictive	X	X
Spiking	X	X
Surface-consistent		X
Nonstationary predictive		X
F-X predictive filtering (F-X deconvolution)		X
Phase	X	X
Kolmogorov spectral factorization		X
Spectral whitening	X	X
Spectral shaping		X
F-K Amplitude Power		X
Multicomponent processing		
Hodogram analysis		X
2C/3C Rotation		X
Rotation of FairFieldNodal multicomponent data		X
Interpolation		
Trace interpolation along the line	X	X
Interpolation of set of 2D lines into a 3D volume		X
Filtering, trace transforms and trace math		
Frequency filtering (common and time-variant): - simple bandpass - Ormsby bandpass - Butterworth high-pass/low-pass/bandpass - notch	X	X
2D average/median/alpha-trimmed filtering	X	X
F-K filtering	X	X
F-X predictive filtering (F-X deconvolution)		X
Radon transform (direct and inverse)		X
Amplitude spectrum calculation	X	X
Phase spectrum calculation	X	X
Autocorrelation and crosscorrelation functions	X	X
Logarithm and exponent of trace	X	X
Adaptive wavefield subtraction		X
Convolution	X	X
Trace/trace and trace/scalar arithmetic	X	X
Power of trace		X
Radial trace transform (direct and inverse)	X	X
Burst noise removal	X	X
Time frequency domain (TFD) noise attenuation		X
Time frequency domain (TFD) noise attenuation (manual)		X
Time-depth conversion		
Conversion between time and depth domain using different types of velocity functions	X	X
Migrations and DMO		
2D/3D Kirchhoff time migration		X
F-K Stolt migration	X	X
3D F-K Stolt migration		X
T-K migration	X	X

2D F-K DMO		X
Velocities and CDP stacking		
3D CDP binning		X
Crooked line 2D CDP binning		X
CDP gathers	X	X
Super gathers	X	X
Velocity manipulation		X
Interactive analysis of stacking velocities	X	X
Horizon-based velocity analysis		X
NMO/NMI-correction	X	X
Stacking	X	X
Offshore data processing		
Marine geometry assignment	X	X
Import geometry from UKOOA P1-90 files		X
Dropped/missed shots correction	X	X
Import tidal statics		X
HiRes marine statics calculation		X
De-bubbling deconvolution		X
2D SRME		X
Suppression of multiples on high-resolution near-offset marine data		X
SharpSeis™ adaptive deghosting/broadband processing		X
QC and attribute analysis		
Pre-stack shot/receiver gather QC: estimation of mean, 2D RMS and mean 1D RMS amplitude, signal-to-noise ratio, resolution and apparent frequency pre-stack within an arbitrary polygon or a rectangular window		X
Fold and offset sampling calculation		X
Survey, fold and offset sampling maps		X
Analysis of attribute dependency on linked cross-plots and histograms		X
Mapping attributes on top of topography background		X
Estimate of average, RMS, minimum, maximum, absolute maximum amplitude post-stack within a window along a horizon		X
Determination of time of maximum, minimum, and absolute maximum amplitude post-stack within a window along a horizon		X
Estimate of peak frequency, apparent frequency, visible frequency, centroid frequency, and frequency		X
bandwidth post-stack within a window along a horizon		X
Estimation of signal-to-noise ratio post-stack within a window along a horizon		X
Computation of auto-correlation and cross-correlation functions	X	
Interactive estimate of velocities of all types of waves	X	
Reflection strength, instantaneous frequency, instantaneous phase		X
Refraction		
Processing time-curves of refracted waves (plus-minus and GRM)	X	X
Vibroseis		
Correlation	X	X
Surface Wave Analysis		
Multichannel Analysis of Surface Wave (MASW)	X	X
VSP		
VSP geometry assignment for vertical or inclined wells		X
Hodogram analysis, 2C and 3C rotation		X
Generation of synthetic seismograms for different wave types		X
Separation of wavefields of different wave types		X
Calculation of arrival time of direct wave or reflected wave from a specified reflector for horizontal layered model		X
Layer velocity modeling		X
Estimation of Q		X
Far-offset VSP NMO-correction		X
Import of well-log data, import and export of velocity models		X

Joint interpretation of VSP, logging, and seismic data		X
VSP Kirchhoff migration		X
VSP-CDP transformation		X
Display and printing		
Various modes of data display	X	X
Display of WT/VA traces on top of color-coded velocity or seismic data	X	X
Support of several data displays at a time, several datasets in one display	X	X
Synchronized scale, scroll and gain in several display windows for data comparison	X	X
Interactive calculation of frequency spectrum and F-K spectrum of arbitrary data fragment	X	X
Display of several spectrum graphs in one window	X	X
Display of trace header fields	X	X
Display of lines, attributes, horizons, on the interactive map	X	X
Interactive display of data along an arbitrary line selected on the Map	X	X
Display of attributes on linked cross-plots and histograms		X
Printing and export of cross-plots and histograms to a bitmap		X
Printing of processing results with print preview	X	X
3D display		
3D volume display		X
3D display of a set of 2D lines, with optional semi-transparent map on top		X
Data and processing management		
Processing within projects. A project can be easily moved to a new location together with all associated data and processing parameters	X	X
Work with several projects at a time	X	X
Processing flows can be combined into several queues and run in parallel	X	X
Processing flows can be copied with all procedures and parameters	X	X
Export/import of processing flows	X	X
Processing history	X	X
Data run-time resorting on input into the flow	X	X
Fast resorting of big data volumes		X
Combining several flows into processing queue, parallel execution of several queues		X
Batch processing of a number of files with the same flow		X
Interpretation		
Horizon picking, manual and automatic	X	X
Gridding of horizons and attributes	X	X
Attribute calculation along horizons		X

*Technical specification is for information only and is subject to change without prior notice.

System requirements

The software works at any CPU of x86 or x86-64 architecture (both 32 and 64 bit versions are available). Most resource-consuming routines are parallelized to take advantage of the modern multi-processor workstations under MS Windows.

Recommended minimum:
Intel Core 2 Duo CPU 1 GHz or faster
2 GB RAM
MS Windows XP (SP3)/Vista/7/8/8.1/10 (64 or 32 bit)
.NET Framework 4.0
OpenGL 2.0

DECO GEOPHYSICAL
software company

Postal address:
MSU SciencePark
Leninskie Gory 1-77
Moscow 119992, Russia

Visiting address:
57A Vavilova st.
Moscow, Russia

t (+7 495) 532 76 36
f (+7 495) 930 80 58
sales@radexpro.com
www.radexpro.com