Technical specifications

Digital terrain model
Ground model information is read from floppy disks or CDs, across a network, direct from data loggers or from the keyboard. A variety of common formats can be used – points list, DXF, MOSS, CivilCAD, compass & clinometer, cross sections, and raw readings from a range of data loggers. HighRoad joins feature strings automatically according to a feature library.

Typical sections
Typical sections are easily designed using a range of kerb, pavement and batter types. These can be selected from a palette of tools in the typical sections window. Simply select the edge and pavement types from the palette of tools and then locate these in the required position on the screen. Cut and paste from a typical section library making the design of complex carriageways easier.

Horizontal alignment
The ease of designing both horizontal and vertical alignments is one of the most impressive features of HighRoad. Multiple horizontal alignments are quickly laid out on the terrain model using the mouse. The horizontal curves, including transitions, are automatically calculated and inserted as you drag the horizontal intersection points.

Intersections
Intelligent intersection design automatically calculates the geometry and grading of an intersection or cul-de-sac. This is done instantly when it is first created it and whenever any adjustment is made to the roads that make up the intersection. The intersection can be dragged along the main road, or drag the main road and the intersection will go with it. It even automatically calculates the interaction between batter slopes.

Profile
The ground profile of the alignment is plotted on screen at a range of scales and vertical exaggeration. Intersection points are positioned using the mouse and can be easily and quickly moved to optimize the design. Vertical curves of parabolic form are automatically inserted and this enables you to quickly position a trial grade line on screen.

Cross sections
Cross sections at any chainage can be instantly displayed. Look quickly through a series of cross sections by simply pressing a button to view the next or previous section. The format of cross sections can be easily changed.

Plan
HighRoad uses the information provided in the typical section, profile and horizontal alignment to produce the plan view. Any changes made will be immediately reflected in the plan. You can choose which aspects of the terrain model and roads to display in the plan view.

Quantities
HighRoad calculates earthworks quantities or a mass haul diagram and allows for the topsoil stripping and strata such as rock.

Drive through simulation and 3D views
(Mac only until May 2001)
Once your design is complete, view a three dimensional drive-through simulation of the road. Various parameters such as driver's eye height and sight distance are adjusted to provide a realistic simulation and to check stopping sight distance requirements.

Drawings and data exchange
Plots of profile, cross sections and plan can be produced on a variety of plotters and printers. Drawings can be saved in PICT or DXF format. Terrain and/or design data can be exported in 3D DXF, MOSS GENIO, CLIP III, CivilCAD ASCII, GDL, Quickdraw 3D, Quicktime, PICT and text formats.

HighRoad modules
The features of HighRoad are organised into modules. Customise HighRoad by selecting the modules you require:
- Extra points – increase points by 10 times
- Extra roads – 100 roads
- Intersections and cul-de-sacs
- Data logger
- Import/export
- 3D viewing and simulation
- Extra DTM – suitable for rock strata
- Drawing manager
- Rockfall simulation

Note: Modules can be added at any time.

Popular configurations include:
HighRoad Pro – 500,000 points, all modules.
HighRoad Plus – 5000 points, 100 roads, import/export options, intersections, drawing manager.
HighRoad S – one road, one pad, 500 points, export in PICT and 2D DXF.

System recommendations
Macintosh:
- Mac OS 8, 9, X
- Power G3 or better
- 128Mb RAM
- 80Mb hard disk space

Windows:
- Windows 95, 98, 2000 or NT 4.0
- Pentium III or better
- 128Mb RAM
- 100Mb hard disk space

Note: For small projects, a lesser system may suffice. Contact Creative Engineering for details.

Ordering information

HighRoad is developed and supported by
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Australia and the rest of the world
Contact Creative Engineering

HighRoad
advanced road design sof

Features

Easy to use
- All design is done graphically
- No need to learn complex commands
- Intersections and cul-de-sacs think for themselves
- Typical section library
- Views are instantly redrawn to show changes
- Superelevation and plan transitions are applied automatically
- Layout the drawings once only – drawing manager keeps them updated

Comprehensive data transfer
- Import terrain data from other software
- Download survey data direct from electronic data loggers
- Export model data or drawings as PICT, DXF, GDL, QD3D, MOSS, Quicktime and others

Support for global solutions
- Available in Italian and Spanish (plus Kanji on Macintosh)
- Switch instantly between English and another language
- Use metric or imperial units
- Currently used in 38 countries
- Worldwide distributors with knowledge of local methods and language

Technical support
- Unlimited free technical support by phone, fax or email
- Annual upgrade program supplies regular updates to software, manual and technical notes

Flexible pricing
- Buy only the modules that you need
- Add more capability at any time by adding modules
- Multiple copy discounts and network licensing available
- Special pricing for educational institutions

HighRoad is a software package that lets you design roads as you always have – graphically. It makes use of the proven graphical interface of modern operating systems so you can use the program immediately without learning complicated commands or special formulae. You don't need to be a computer expert to use HighRoad – its icons and graphics make it intuitive and quick to use.

Road design is fast and interactive with HighRoad. Even complex design elements such as intersections and cul-de-sacs are automatically created for you. HighRoad's proven "embedded intelligence" ensures that these elements remain synchronised as you make adjustments to your design. While it has a great amount of intelligence built in, HighRoad also provides you with the flexibility to override its decisions when necessary.

The elegant interface of HighRoad means that it can be used for a variety of civil engineering tasks. As well as road design for subdivisions, highway planning, highway relocation, haul roads, and widenings, it has also been used for drainage channels, pipelines, retention basins, conveyor routes, open cut mines, race courses, airport runways, and so on.

Drawing layout and production is simplified by the drawing manager and tracking of construction projects streamlined by the ability to calculate earthworks for progress claims. Building pad design broadens the capability of HighRoad without compromising its ease of use.

HighRoad was designed from the start to be used by road designers without any computer experience. It has been designed by a civil engineer with extensive road design experience, and continues to evolve in response to suggestions from users around the world.

A demonstration CD is available and this includes a working copy of HighRoad which can be used with sample projects. Also included on CD is a complete user manual and technical notes.

CREATIVE ENGINEERING