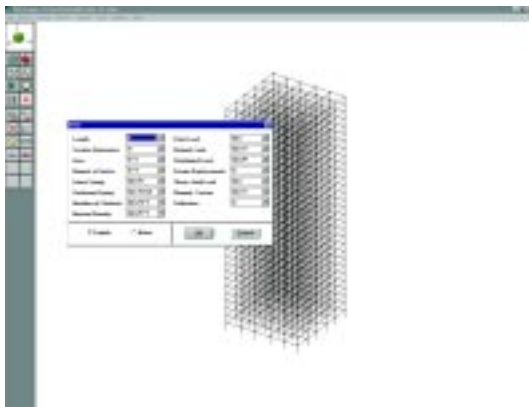


The logo for PCA frame, featuring the word 'pca' in a smaller, orange font and 'frame' in a larger, dark blue font, both in a sans-serif typeface. The text is set against a white, stylized arrow-like background that points to the right. The entire logo is centered on a background of orange and yellow wireframe cubes of various sizes and orientations, creating a 3D architectural feel.

**A general purpose structural analysis program for two- and three-dimensional structures subject to static loads**



**PCA Frame is a general purpose structural analysis program for two- and three-dimensional structures subject to static loads.**

**PCA Frame uses pull-down menus, push-buttons, dialog boxes, list boxes, and a sophisticated graphical interface for ease of input and clear output presentation.**

#### **General Features**

- Practically unlimited number of joints, members, loads, load cases, load combinations, and other entries
- English (US) and metric (SI) unit systems
- User-selected units for every input and output parameter. Units can be changed at any time while inputting data or after solving a problem
- Online help
- Auto-input feature that “walks” you through the input process
- Member grouping
- Input and output kept in memory for speed; option of saving all data on disk
- All program options and commands have equivalent push-buttons for fast and easy access

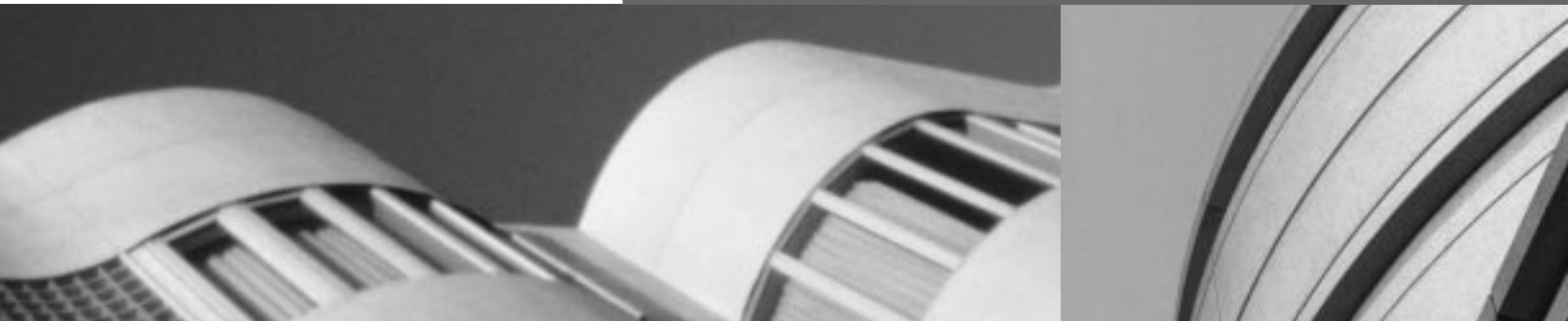
#### **System Requirements**

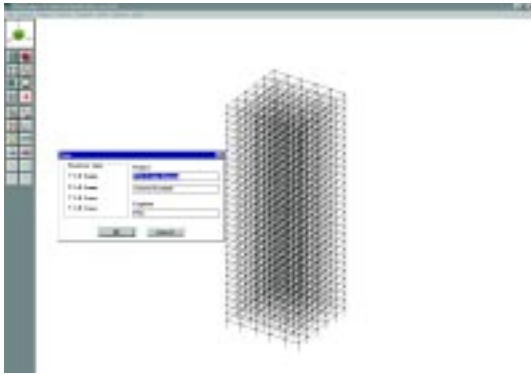
- Microsoft Windows
- 2 MB of free hard-disk space
- A minimum of 1 MB of RAM

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- All entries, including joints and members, permit alphanumeric labels (instead of numbers)
- Automatic generation of joints and members
- Ability to save settings and defaults for future input sessions
- Input dialog boxes have clear labels and all relevant units displayed at all times
- Data checked as they are input

### Output

- Ability to view results in text or graphical format before printing
- Selective printing allowing printing of results for all or user-selected members, joints, member groups, and load combinations
- User-selected input echo
- Joint displacements
- Joint rotations
- Support reactions
- Member end forces and moments
- Member segmental forces, moments, and deflections—in tabular and graphical formats
- Member summary listing all relevant input and output data for a member on one page
- Member segmental force, moment, and deflection envelopes (maxima and minima, resulting from all load combinations)—in tabular and graphical formats
- Group segmental force, moment, and deflection envelopes (maxima and minima for all members in a group, resulting from all load combinations)—in tabular and graphical formats
- Diaphragm displacements
- Summary report

### Technical Features

- Two- and three-dimensional frames and trusses
- Second order analysis for P-D effects
- Second order analysis for tension-only members
- Inclined supports
- Linear and rotational elastic supports (springs)

- Hinged, fully-fixed, and partially-fixed member ends
- Shear deformations
- Member rigid-end offsets
- Rigid diaphragms
- Non-prismatic members
- Point, uniform, triangular, concentrated, and temperature loads
- Local, global, or projected application of loads
- Cracked section properties

### File Features

- Ability to import and export AutoCAD files (DXF)
- Automatic file saving (AutoSave) while inputting data
- Ability to save input files in binary and text format
- Ability to copy graphics to the Windows clipboard
- Ability to save material properties, section properties, nonprismatic member properties, and load entries in library files that can be shared by all PCA-Frame input files
- Built-in file compression utility

### Graphical Interface Features

- Fast graphical interface that displays the model geometry at all times for verification
- Graphic image displaying joints, members and their labels, member rigid-end offsets, joint fixities (supports), and member orientation
- Ability to superimpose applied loads, deflected shape, and resulting shear and moment diagrams on the modeled structure
- Ability to zoom, translate (pan), or rotate the graphical image
- Ability to display portions of the graphical image for a clearer presentation
- Ability to obtain member information by simply clicking on the member
- User-controlled screen color settings

### Solver

- Fast two-pass solver
- Stiffness matrix method of solution
- Ability to save the stiffness matrices
- Internal automatic model optimization
- Checking of input errors, inconsistencies, and structural stability
- Local processing: segmental forces, moments, and displacements at 100 segments per member
- Local processing for user-selected members
- Local processing for user-selected load combinations
- True multitasking while running solver
- Ability to pause or abort solver at any time

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