

TwinCAD® Quick Guide

V3.1



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Introduction

TwinCAD® is a full-featured CAD program for preparing 2D drawings. TwinCAD provides extensive drawing construction and editing tools for you to create accurate design drawings in a most efficient way.

TwinCAD features Windows-based GUI which allows you to learn and use the program easily. TwinCAD is fully customizable, enabling you to automate routines, create custom menus, and set up command aliases. Drawings created in other CAD packages can be imported into TwinCAD via DWG or DXF file formats. The drawings created or modified in TwinCAD can also be exported through a variety of raster image file formats including GIF, PCX, BMP and TIFF, plus the Windows Metafiles (WMF).

As a powerful and easy-to-use CAD package, TwinCAD is suitable not only for the professional design works in the industry environment, but also for the rather light-weighted sketching works in the office environment. TwinCAD currently runs on Windows 3.1, Windows 95/98 and Windows NT platforms.

Feature Highlights

- Supports DWG drawing format from R9 to R14
- Automatic and dynamic dimensioning feature
- Supports TrueType fonts and text FILL
- Powerful symbol library building feature
- Direct export of drawing in raster file format
- Provides drawing loading and plotting preview feature
- Provides 3D projected view from 2D entities
- Check and remove duplicated entities
- Provides Command line expression evaluator
- Allows trim or extend to texts and blocks
- Generates parametric function curve plot

System Requirement

- IBM PC or compatible (80486 and up)
- Windows 3.1, Windows 95/98 or Windows NT
- 8MB memory (16MB recommended)
- 40MB minimum disk space
- Color display

Installing the Program

Installing from CD-ROM

➤ **On Windows 95/98 or Windows NT 4.0**

When TwinCAD CD-ROM is inserted, the Autorun program will be running automatically. Follow the prompts for installation. If for some reasons the autorun program can not be booted, then select Run from the Taskbar Start menu and type the full name of “SETUP.EXE” (with the file path), select [OK] to install.

➤ **On Windows 3.1 or Windows NT 3.51**

Insert TwinCAD CD-ROM and activate the Program Manager, select Run from the File menu, type the full name of “SETUP.EXE” (with the file path), select [OK] to install and follow the prompts.

Caution: During the installation, the “Key” entry field must be entered with a 16-digit ACTIVATION KEY as an authentication check for running

the program. If the key is not entered, the program will be installed and running as a TESTDRIVE mode.

Installing from Diskettes

Though TwinCAD program comes in CD-ROM package only, the program files are structured with subdirectories in unit of 3.5"-1.44 MB diskette. For those who do not have CD-ROM drive installed on the target machine, the original TwinCAD program may be copied from the CD-ROM to floppy diskettes, with each subdirectory (e.g., \disk1, \disk2...etc.) matching a real diskette, then install the program from the diskettes

Uninstall the Program

Every TwinCAD program that you previously installed may be removed from the hard drive by running the "Uninstall" program provided within the TwinCAD program folder.

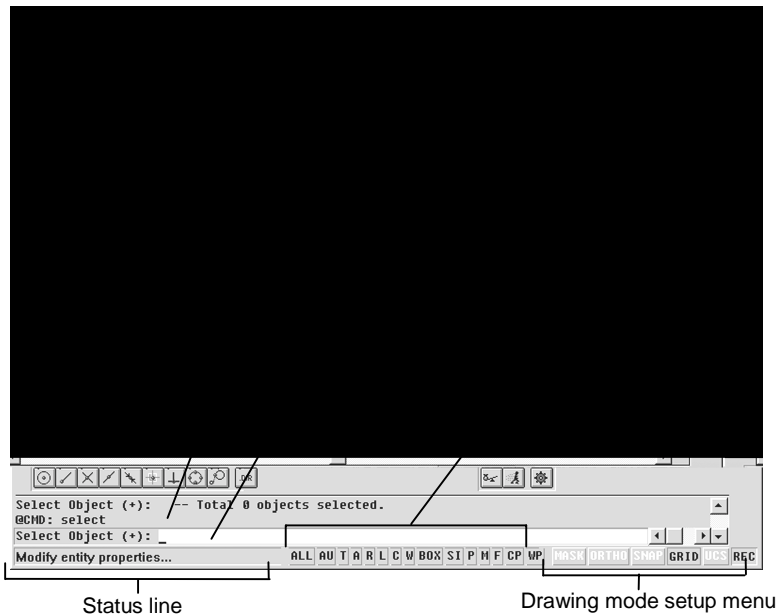
Upgrade Instructions

To upgrade the program, you may follow the same procedure as in the normal installation. You can upgrade TwinCAD to the same location as a previously installed copy of TwinCAD. The installation program will automatically detect the existing programs, and make necessary upgrades and backups to the program files.

The Basics

The TwinCAD Screen

After you start TwinCAD, the graphics screen appears. The layout of the graphic screen is dependent upon the system initial file (TWINCAD.INI), and may include the items as shown on the next page:



The TwinCAD Screen Layout

Drawing Area

The area on the screen where you create your drawing.

Pull-down Menu

The set of menus comprising the TwinCAD command sets at the top line of the screen. The pull-down menus may contain cascaded menus for specific command groups.

Toolbars

The toolbars are icon-based menus. All the floating toolbars are dockable and can be moved to any place within the drawing area.

Command Message Area

A text window at the bottom of the screen for displaying foregoing command messages. You may adjust the window size by dragging the upper boundary up and down. Double-clicking at this area will open a full text window.

Command Line

A single-line text window at the bottom of the screen. This is where you enter command from the keyboard.

Status Line

The line at the bottom of the screen that can be used to display current cursor coordinates and command description when you are traveling through the pull-down menus.

Subcommand Menu

This area is used to display subcommand options in single letters.

Drawing Mode Setup Menu

This area is used for setting basic drawing modes such as grid, snap and orthogonal settings, and entity selection masking.

Invoking Commands

From the Command Line

- Type in the full command name

Type in the command name in full from keyboard at the command line prompt, and press <Enter> or space bar to execute the command.

- Type in the alias of command

You may enter the abbreviated command name or the “alias” of command as defined in the Command Alias File (.CAD). The default alias file is TCAD.CAD. You may set your own alias file and put to use through the file setting function in CONFIG command.

From the Pull-down Menus

Most TwinCAD commands are sorted in groups that are easily accessible from the pull-down menu on the screen. Take a quick tour over the pull-down menu to get a general idea of the functions that TwinCAD offers.

From the Toolbars

The toolbar menu provides a GUI style command entry method. TwinCAD toolbars are organized in twelve groups, each group consists of a set of icons. When you first enter TwinCAD system, all the toolbars will be shown on the screen. You may close the undesired toolbar groups by clicking the close button ([-]), or recall the toolbars by issuing TOOLBAR command. All the toolbar icons are easily identified with descriptive bubble texts.

Getting Help

TwinCAD provides a comprehensive online manual that offers detailed command reference data and general operation of the system. You may access the online help file in the following ways:

Getting Help in General

Type HELP to open TwinCAD online manual, follow through the table of content for information you need.

Getting Help for a Specific Command

When you have entered a certain command and wish to get help on that command, you may:

- Type 'HELP' at the command line as a transparent command
- Type <Ctrl/H> to invoke the help file
- Click [Help] button if you are running a dialogue-box based command

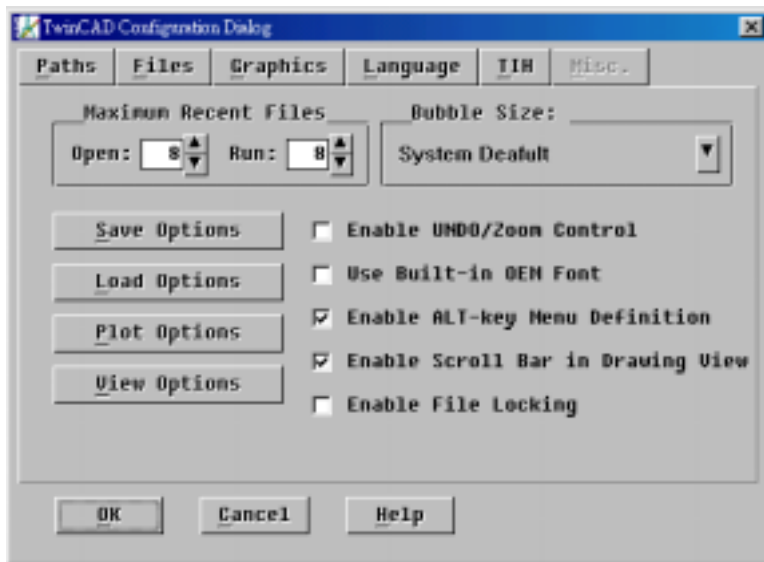
General Settings

Use CONFIG for General Setup

When you enter TwinCAD system, the first thing you want to do is to run CONFIG to do system configuration and general setups for operation. CONFIG provides property-sheet like setting pages which allow you to do the following:

- Set up file directory *Paths*
Set up default search paths, swap path and user path.

- Specify initial work ***Files***
Specify prototype drawing file, initial command script file, command alias file (.CAD), hatch pattern file and linetype file.
- Set up ***Graphics*** presentations
Change logical pen colors, physical palette colors and screen background color.
- Assign ***Language*** modes
Select between standard (English) language and alternative language, and assign language-dependent support files when necessary.
- Define ***Text Input Handlers***
Set up text input handler to be activated with <Ctrl/Fn> keys.
- Miscellaneous settings
Various settings for: maximum number for mostly recently used files, bubble text size and font, undo/redo switch for zooming control, file locking and drawing saving/loading/plotting/viewing controls.



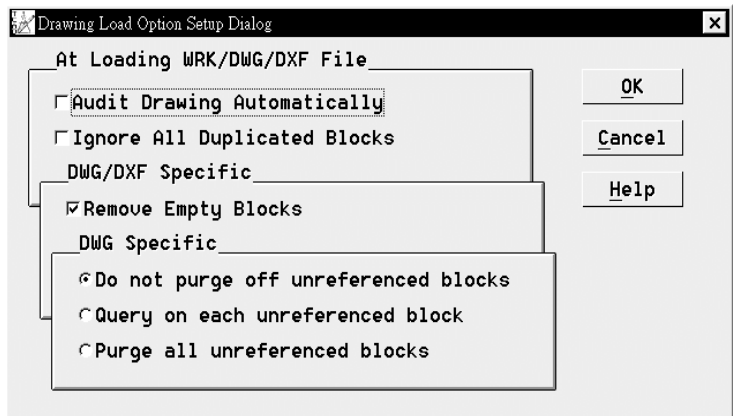
CONFIG settings

Use LOADOPT for File Loading Control

LOADOPT allows you to do option settings when loading a drawing file,

using dialogue-box operation. The option settings include the following:

- Automatic auditing of the drawing
- Ignoring duplicated drawing blocks
- Removing empty blocks when loading DWG or DXF files
- Purging unreferenced blocks when loading DWG files

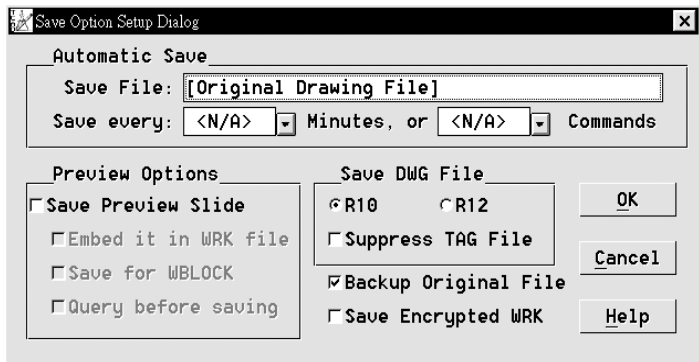


LOADOPT settings

Use SAVEOPT for File Saving Control

SAVEOPT allows you to do option settings when saving a drawing file, using dialogue-box operation. The option settings include the following:

- Automatic saving the drawing
- Saving a slide image with the drawing file for later preview
- Automatic backup of the original file when saving the changes
- Saving DWG file in different versions (for TwinCAD Pro only)



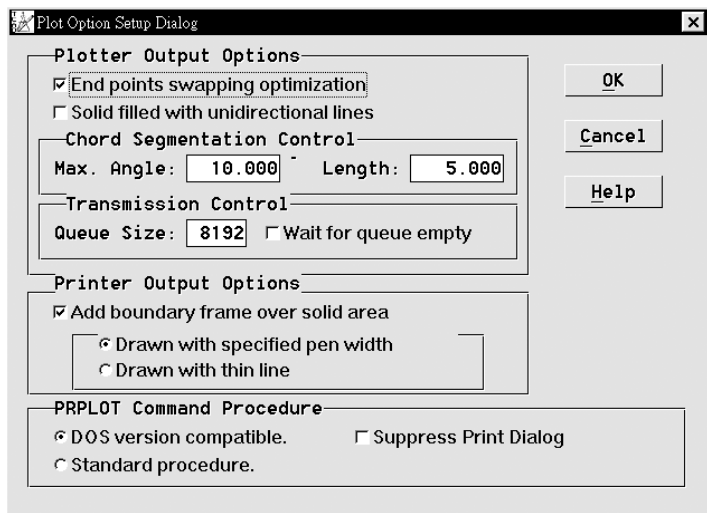
SAVEOPT settings

Use PLOTOPT for Drawing Output Control

PLOTOPT allows you to do option settings when plotting or printing out a drawing, using dialogue-box operation. The option settings include the following:

- End point swapping for pen plotters
- Solid-fill with unidirectional scan lines for non-pen plotters
- Chord segmentation control for arc plotting
- Transmission control for plotting process
- Use standard procedure or DOS compatible procedure for printing

Caution: If you are new to TwinCAD, please select “standard procedure” for a Windows-compliant printing practices using PRPLOT command.



PLOTOPT settings

Use VIEWOPT for Drawing Display Control

VIEWOPT allows you to do option settings that will increase the drawing regen speed at the expense of rudimentary viewing effect. The option settings that will affect the regen speed are listed as follows:

➤ Linetype generation setting

You may select between “rough but fast” and “precise but slow” generation of linetypes.

➤ Text display setting

The displaying of Text entities will be accelerated if only “text frames” are drawn, and the Bezier curves that constitute TrueType fonts are replaced with line segments.

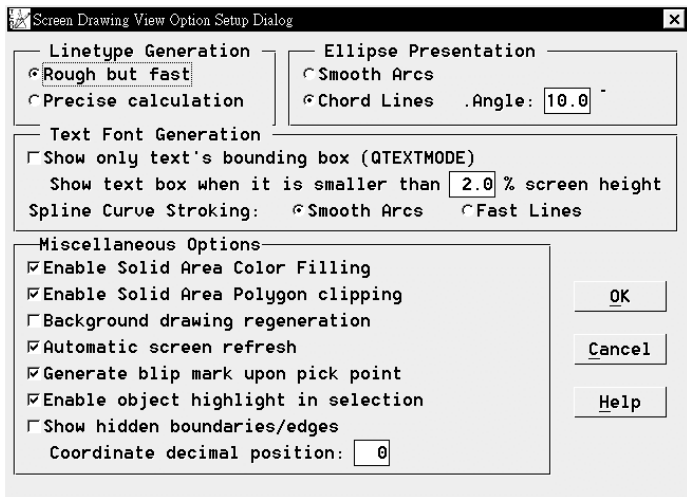
➤ Ellipse generation setting

You may choose to draw ellipses in smooth arcs or chord lines which is much faster.

➤ Miscellaneous

Whether to enable the solid filling, solid polygon clipping and background drawing regen.

Note: Although the option settings for fast displaying make the linetypes, texts and ellipses look rudimentary on the screen, they will not affect the accuracy of physical drawing output through printers or plotters.



VIEWOPT settings

Use DDSTYLE for Text Setup

DDSTYLE is a useful command for you to set up text fonts, text expression attributes and text insertion styles using dialogue-box operation.

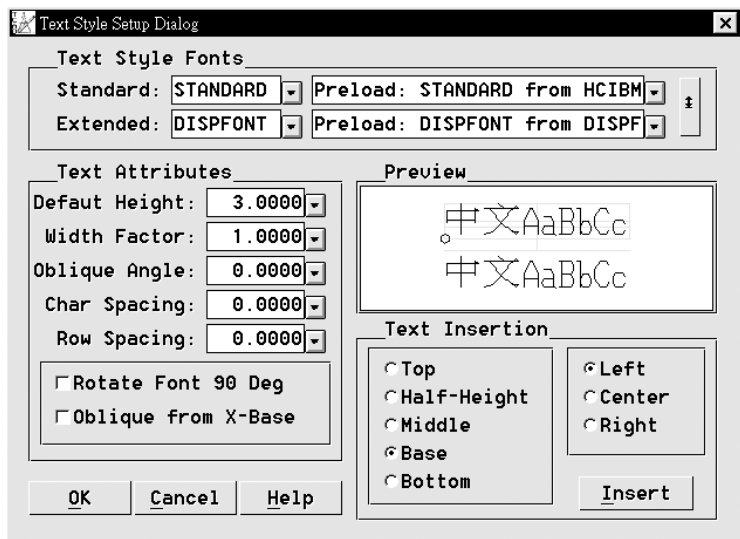
- Setup of text style fonts
Select standard (English) and extended (non-ASCII codes) style fonts.

- Building Loadable Font Table
Press the unlabelled double arrow-headed button at the right to call out the default search paths, and make necessary modification on the paths for building loadable font table. Font files supported include TTF, PFB, SHX (AutoCAD® shape font), SHZ (TwinCAD shape font) and SHE (TwinCAD extended shape font).

- Setting text attributes
Settings of text height, width, slant angle, character spacing and row spacing.

- Text font preview
A text preview window is provided for you to view the selected text fonts before insertion.

- Text insertion control
Allow you to insert text with different text justification methods.



DDSTYLE settings

Creating or Opening a Drawing

Create a New Drawing

To create a new drawing, you may issue DDNEW command for dialogue box operation, or select **[Files]** → **[New]** from the pull-down menu.

Open an Existing Drawing

You may open an existing drawing in WRK (TwinCAD proprietary drawing format) or DWG (AutoCAD® proprietary drawing format) formats, or import a file in DXF drawing interchange format. It is most convenient to do this from the pull-down menu, by selecting **[Files]** → **[Merge in]** and pick the options.

Merge or Insert a Drawing

You may follow the same procedure as above (**[Files]** → **[Merge in]**) for merging a drawing in WRK, DWG or DXF format into your current drawing. For detail description of variable controls and data conversions during the merging, please refer to LOAD, DXFIN and DWGIN

commands from the online reference manual.

If you wish to insert an existing WRK or DWG drawing into your current drawing at a specified location with given scale factor and orientation, then you may issue INSERT command followed by “*= ” and <Enter> to bring out the file window for loading external drawing files.

Exporting the Drawing

Saving the Drawing

You may save your work drawing in WRK, DWG or DXF formats. The “SAVE AS” feature allows you to save your WRK file in different file name.

Note: Drawing exported in DWG and/or DXF formats are supported in TwinCAD Pro version only.

Exporting the Drawing in Raster Files

TwinCAD allows you to export the drawing in raster image files. Currently supported file formats include BMP, GIF, PCX and TIFF.

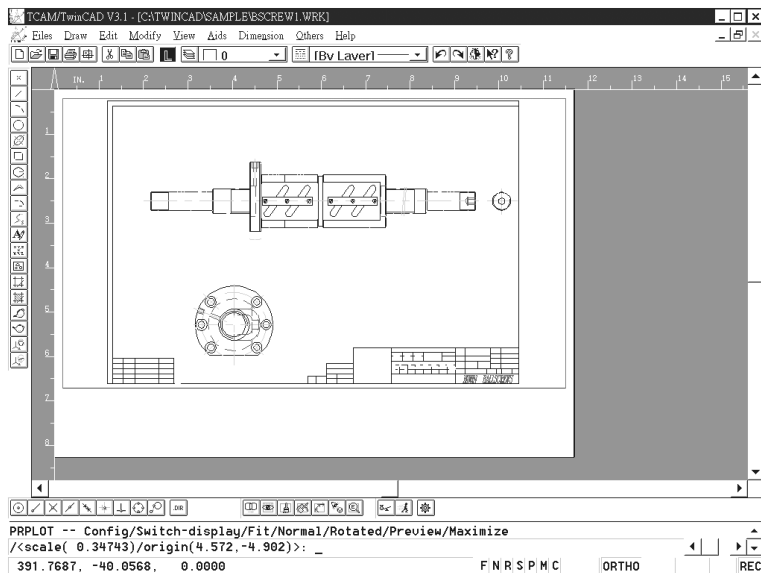
Exporting the Drawing in Windows Metafiles

TwinCAD supports drawing exporting in Windows metafile (WMF) format. WMF is an ideal choice for you to prepare drawing-embedded documents, due to its superior scalability in frame size. The WMF comes in two formats, the Standard WMF and Placeable WMF. If you are creating WMF for the insertion into desktop publishing software like WinWord, you must use Placeable WMF format. Most desktop publishing software do not accept Standard WMF, since it does not contain the size information of the image.

Printing out the Drawing

The PRPLOT command allows you to output the drawing image through system printers. Before entering PRPLOT, make sure you select “Standard Procedure” from PLOTOP command under “PRPLOT Command Procedure” setting section. This will take you into a Windows-compliant printing operation.

When you are running standard procedure, after you enter PRPLOT command and have defined the drawing view for output, you will enter a “Set Frame” page where a virtual drawing paper is displayed on the screen, and numerous setting parameters are listed in the command line area. This “Set Frame” operation allows you to do printing configuration and drawing view adjustment on the screen interactively, before sending drawing to the printer. When you are done with all the settings, simply press <Enter> to start the printing.



Set Frame page with plot preview

The setting items provided on the Set Frame page include the following:

Scale/Origin

Setting scale for drawing is the very first step you want to do on the Set Frame page. Note that the scale value must be set to a nonzero number, in order to see a drawing frame displayed on the drawing paper.

Configure

This will take you to a plotting configuration page where you may do pen width setting and basic plot settings like orientation, margin and plot size, plus printer setup.

Fit

You may define a frame with two points, and fit the drawing plot within that frame.

Normal

The normal orientation of the drawing paper is set as the portrait orientation.

Rotated

This is to rotate the drawing paper from normal portrait orientation into landscape orientation. The orientation of the drawing plot remains unchanged.

Switch Display

This is to switch the X/Y coordinates and rotate the drawing paper with the drawing plot in 90 degrees.

Preview

You may use this feature to preview the drawing plot.

Maximize

You may use this setting to fill the drawing plot on the paper to the maximum extent.

Plotting out the Drawing

The large format plotting in TwinCAD is supported by PLOT command, and is controlled by the Plotter Driver Files (PDF). The PDF is a device-dependent file that controls the output conversion formats for all plotting commands. TwinCAD provides PDF for HPGL-compliant plotters and some commonly-used plotter models. Please check under Support subdirectory for available PDFs included with TwinCAD package. For detail description on plotting operation and PDF, please refer to PLOT command and Miscellaneous Information part in TwinCAD online reference manual

List of Commands

TwinCAD provides more than 200 commands and is still increasing. To get an idea of what commands are available in your current TwinCAD package, type “CMDLIST” at the command line, and press <F1> key or double click the command message area to bring out a full text screen for an overview.

For detail description of all TwinCAD commands, please type “HELP” to enter TwinCAD Command Reference online manual, where all commands are listed in alphabetical order as well as in function groups.