Slick! ® for Windows?

Version 8.0

Copyright Information

Overview

Slick! for Windows v8.0 is a powerful file management software for both AutoCAD and non-AutoCAD users. It supports viewing of over 200 file formats from popular applications including the latest raster formats such as Jedmics, tiled tiffs, progressive JPGS,and CMYK support. It has an integrated database which allows you attach a database record to any of your files for tracking and documentation purposes.

Slick! LT for Windows v8.0 has all the features of the full version except for the database features.

Features

AutoCAD dwg viewing

?? Zooming and panning within the graphics window
?? Viewing selected AutoCAD layers
?? Selecting a camera viewport
?? Support for drawing layouts (AutoCAD 2000/2002 only)
?? Support for true type fonts (AutoCAD 2000/2002 only)
?? Support for lineweights (AutoCAD 2000/2002 only)

AutoCAD for Windows Interface

?? Open a selected file in AutoCAD directly from Slick!
?? Insert a block into the current AutoCAD drawing
?? Attach an XREF into the current AutoCAD drawing

Adobe Acrobat Reader Interface

?? Selecting a pdf file from the Slick file window launches Adobe Acrobat Reader if present in the system to view the file
?? Multiple pdf files may be tagged for batch printing by Adobe Acrobat Reader

SolidWorks Interface

?? Selecting SolidWorks file extensions (.sldasm, .sldprt, .slddrw, .asm, .drw, .prt) from the Slick files window launches the SolidWorks viewer to view the files. The extensions must be registered to the SolidWorks viewer.

Microstation Interface

Selecting a Microstation file with the .DGN extension will launch the Microstation viewer if present in the system. The DGN extension must be registered to the viewer.

General File Viewing

?? Ability to view all the supported formats without the applications that created them.

Hardcopy Output

?? Printing the contents of the graphics window to your Windows printer
?? Batch printing; you can tag multiple drawings for printing
?? Optionally printing the database information together with the graphics

File Utilities

?? Delete, rename, copy
?? Support for tagged files

Database

?? User customizable database structure
?? Browsing thru the contents of the database
?? Create query conditions for browsing
?? Support for multiple databases
?? Two-way attribute exchange between the database and AutoCAD blocks

Reporting

?? Creating and saving a report or display layout
?? Reporting to a printer or file

Clipboard

?? Copying the contents of graphics window to the Windows clipboard in image or vector format

Multiple Document Interface

?? Ability to open multiple Slick! Windows

Annotating / Redlining

?? Annotating the supported file formats with notes and drawing entities

using lines, arcs, boxes, circles, and text

Raster Conversion

?? Convert vector files such as dwgs or plot files to raster files like cals, tif, pdf, etc. High-resolution conversion is now possible if you are using Windows NT, 2000, or XP. Resolution can go as high as 8192 pixels.
?? Convert raster formats to other raster formats
?? Convert supported vector and raster formats to Adobe Acrobat PDF format

Note: Slick does not convert raster formats to vector formats

System Requirements

?? Any system running Windows 95/98/Me/NT v4.0/2000/ XP
?? 64 MB of memory
?? 25 MB of free hard disk space
?? Windows display (VGA or higher)
?? Windows compatible mouse

Supported Files

The files are divided into Group I or Type II. For a complete list, see the chapter "Supported Formats" at the end of the manual.

In general, redlining and batch printing are only supported in Group I files. These features are not supported in Group II files. They also use different print dialog boxes.

Although all files may be printed one at a time, batch printing is not supported on all. The chart indicates whether the batch printing (BP), redlining (RL), or zoom (ZM) feature is supported for the file. The type column indicates whether the file is any of the following:

V	-	vector	R	-	raster
DB	-	database	SS	-	spreadsheet
WP	-	word processing	PR	-	presentation
OT	-	other			

AutoCAD drawings

Slick! can view native dwg files from AutoCAD Rel 9 thru AutoCAD 2002 and all versions of AutoCAD LT thru LT 98.

Installation

Slick! for Windows v8.0 ships in either single-user or network versions on CD-ROM, registration card, and a printed "Installation and Getting Start" manual

If you are upgrading from a previous version of Slick, it is very important that you read the following section on upgrading. If not, you may proceed to New Installation.

Installation overview

?? Run the self-extracting install program **slick80x.exe** from the web (**slk80ltx.exe** for Slick! LT) or **setup.exe** from the CD to setup the software to your harddisk ;

?? Run the Slick! configuration program **slcfgwin.exe** for the full version or **slcfglt.exe** for Slick! LT.

?? The configuration program will prompt for a configuration directory to hold Slick!'s configuration files;

?? Setting Slick! environment variables in Windows 95/98/NT if necessary

?? When installing in a **Windows 2000 or Windows XP system**, the administrator must give the User full rights to the Slick! folder and the Slick! configuration directory!

Upgrading from an older version of Slick!

Slick! v8.0 uses a different database format from version v4.0 and older. It uses the same database format as version 5.0, 5.1, 5.2, 6.0 and 7.0. If you are using the database feature, Slick! will automatically convert the old database to the new format. It will not delete the old database and index files.

The old database files are: slickdb.dbf and slickdb3.cdx.
The new converted files are: slickdb4.dbf and slickdb4.cdx

It is important that you:
install Slick! 8.0 in a different directory from your older version
backup all the files in the database directory

If your existing database is in the default slickdb.dir directory, Slick! will convert this automatically as soon as you select a drive letter in the Slick!

directory window.

If your existing database is specified in a User Directory, specify the same directory when configuring the Slick! v8.0 database. Slick! will then be able to locate it and convert to the new format.

Since you will be specifying the configuration directory during installation, the SLICK environment variable used in previous versions to indicate the location of the configuration files is no longer necessary.

New Single-User Installation

Insert the CD into the CD-ROM drive. From the Windows 95/98/NT 4.0/2000 Start menu, choose Run, designate the CD-ROM drive, and enter the path name and setup. For example, **g:\setup**. Setup will display the Slick! Welcome screen. Click on Next to continue.

The Software License Agreement screen will appear for your review. If you accept the temrs of the agreement, choose Yes. If not, choose No. If you do not accept the license agreement, Slick! cannot be installed.

Setup displays the user information screen. Make the necessary changes as desired to your Name and Company.

Click on Next.
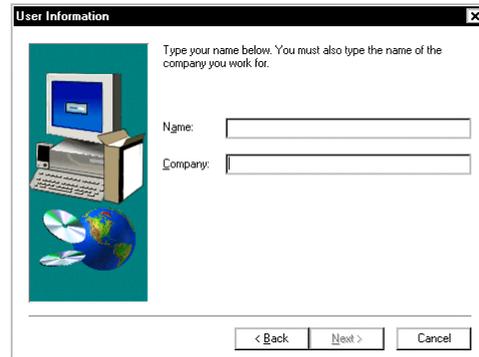
Setup displays the Destination Location screen. The default location is drive:\Program Files\Your Company\Slick!
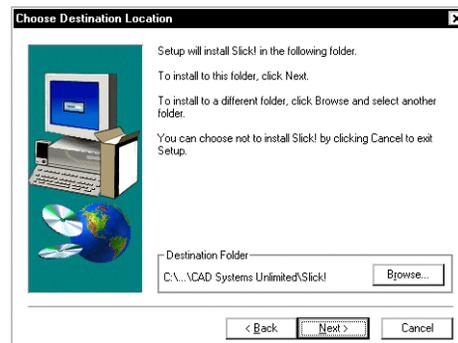
Choose Browse to change the destination directory.
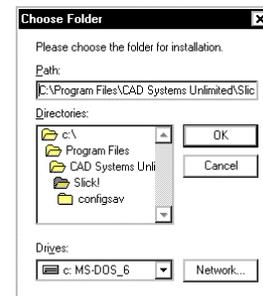
Click Ok after selecting the destination directory from the Browse screen.

Choose the Program Icon for the Program Folder.

Click Next when finished.

Setup will start copying the files to the destination directory.
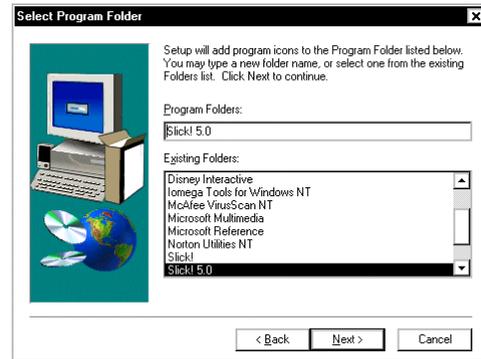
You can view the readme and/or launch the configuration program.

Click Finish to complete installation.
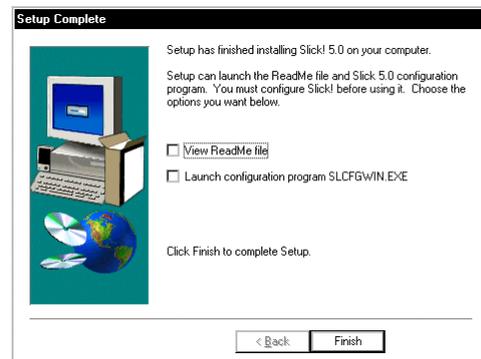
After successful installation, you can run the Slick! main program or the configuration progam from the Windows Start menu.

Before starting Slick!, you may need to set certain environment variables. See Environment Variables later in this chapter.

Configuration

Slick! v8.0 must be configured before it can run. If you have not done so, run the Slick! configuration program from the Windows 95/NT 4.0 Start menu.

First-Time Configuration

If you are configuring Slick! for the first-time, this dialog box appears.

Click Yes to continue.
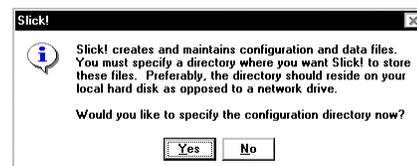
The directory screen appears.
Create a new directory for the
configuration files.

Select configuration directory

Look in: slick50.cfg

File name: SlickDev.cfg

Files of type: Slick Configuration

☐ Open as read-only

Open   Cancel

Sample screen shows the
configuration directory as
slickv51.cfg.

Click Open when finished to
start configuration.
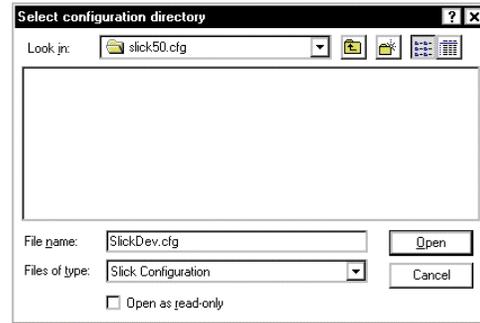
Attention Network Installers:
A configuration directory must be created in the client machine's local drive.
Make sure that you are not creating the configuration directory on the file
server drive! You must enter the serial number and authorization code for
each user.

To change Configuration Directory
You may change the configuration directory later by running the configuration
program and clicking on the "CFG Directory" button.

Configuration Error Messages

This message appears when you
attempt to run Slick! and it
cannot find the configuration
directory

Slick!

ⓘ Slick! requires a directory for its configuration and work
files. Designate an existing directory by running the
Configuration Program SLCFGWIN.EXE.

OK
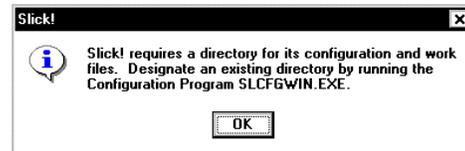
This message appears if you
canceled while creating a
configuration directory.

Slick!

ⓘ A directory for keeping configuration and temporary
files must be specified. Exiting now.

OK
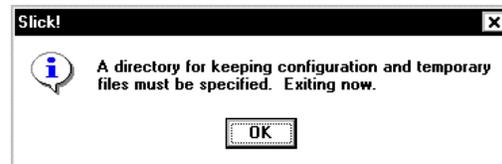
Invalid configuration file.
Slick! cannot find slickdev.cfg in the
configuration directory you specified.
Common cause is you did not save the
configuration after the initial configuration
screen came out.

Slick!

❌ Invalid configuration file.
Run SLCFGWIN.EXE first.

OK

Configuration Screen
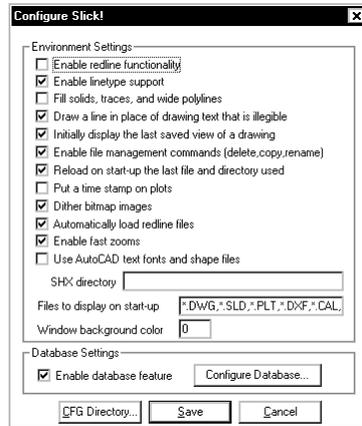
You may enable/disable a setting by selecting it with the mouse. A setting is enabled if it is marked with a check mark.

You may configure the database by selecting **Configure Database** at the bottom of the dialog box. The database options are not shown in Slick! LT.

You may change the configuration directory by selecting CFG Directory When you have finished, select **Save**.

Enable redline functionality
If selected, Slick! allows you to mark up drawings and raster files and also provides ID and distance functions.

Enable linetype support
If selected, Slick! will display AutoCAD linetypes, otherwise, only straight lines will be displayed.

Fill solids, traces, and wide polylines
If selected, Slick! will display filled solids, traces, and wide polylines. Otherwise, these will be displayed in outline form.

Draw a line in place of drawing text that is illegible
If selected, all illegible drawing text will be drawn as straight lines.

Initially display the last saved view of a drawing
If selected, Slick! displays the drawing as it was last saved (last zoom). Otherwise, Slick! displays the drawings extents.

Enable file management commands (delete, copy, rename)

If selected, Slick! enables the functions delete, copy, rename. Otherwise, these functions are disabled!

Reload on start-up the last file and directory used
If selected, Slick! will automatically select for viewing the last file being viewed during the previous Slick! session.

Put a time stamp on plots
If selected, Slick! will place a plot time stamp on your hardcopy outputs. The time stamp is composed of the file name, date, and time of printing. Time stamps are placed on the upper left corner of the paper.

Dither bitmap images
Mixes pixel colors to produce a perception of more colors than there actually are. Useful when viewing several files at the same time.

Automatically load redline file
If selected, Slick! will automatically load a redline file with the same name as the graphics file being viewed if it exists in the same directory.

Use AutoCAD text fonts and shape files
If selected, Slick! will display AutoCAD text fonts and shape files. You must enter the directory where the SHX files are located in the box marked SHX Directory.   Box is not active if option is not selected.

You may enter multiple directories separated by semi-colons. For example,

```
c:\acad12\fonts;d:\myshx;e:\acad\support
```

If not selected, Slick! will display its internal font and shapes will not be displayed.
? Slick! will display the new R12 postscript fonts if they are compiled! Use the AutoCAD compile command to compile the postscript (.pfb) font files into .SHX files.

Files to display on start-up
Select this box to specify which files to display. Slick! now allows you to specify multiple conditions in a string of up to ten (10) filespecs or a maximum of ninety-nine (99) characters long.

Filespecs must be separated by commas. Any filenames that meet any of the conditions will be displayed. For example, you may enter:
*.dwg, *.plt, *.dxf, *.sld, *.rlc, *.cal

You can override these conditions later using the *File ? Filespec* command.

Window Background Color
You can set the background color Slick! uses for the graphics display. The default is 0 (zero) for black. Valid values are 0 thru 255 and corresponds to AutoCAD's color numbering scheme. The following table shows the numbers for standard colors. To change to white background, set this to 7.

Color	Background	Color	Background
0	black	4	cyan
1	red	5	blue
2	yellow	6	magenta
3	green	7	white

Fastest Viewing Speed

Configuration settings above affect viewing speed. The following settings result in the fastest drawing/slide display.

- ? Enable linetype support
- ? Use AutoCAD text fonts and shapes files
- ? Fill solids, traces, and wide polylines
- ? Draw a line in place of drawing text that is illegible
- ? Initially display last saved view of drawing

? Configuration settings affect plotting and printing. For example, if AutoCAD fonts are disabled, Slick! will plot its built-in font. If solid fills are disabled, solids will plot in outline form!

Database Configuration

By default, the database feature is enabled. If you wish to disable this feature, click on on the box labeled **Enable database feature**. If the database is disabled, database information will not be accessible to the user.

You may configure the database by selecting **Configure Database** from the main configuration dialog box. You may enable or disable a setting by selecting it with the mouse. A setting is enabled if it is marked with a check mark. The following figure shows the default settings.
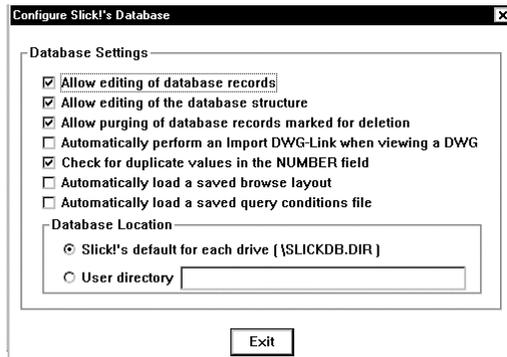
Allow editing of database records
If selected, the user is allowed to change the contents of the database records.

Allow editing of the database structure
If selected, the user is prevented from modifying the database structure.

Allow purging of database records marked for deletion
If selected, the user is allowed to purge the database file of all deleted records permanently.

Automatically perform an Import DWG-Link when viewing a DWG
If selected, Slick! automatically imports block attribute data for linked fields in the database. For more information, see the Attribute Exchange Section.

Check for duplicate values in the NUMBER field
If selected, Slick! provides warning messages if you attempt to enter a duplicate drawing number in the database.

Automatically load a saved browse layout
If selected, Slick! will automatically load a previously defined a browse layout when you first enter the browse menu.

Automatically load a saved query conditions file
If selected, Slick! will automatically load a previously defined set of query conditions when you first enter the query menu.

Database Location

Default Directory

By default, Slick! looks for the database file **slickdb.dbf** in the directory **SLICKDB.DIR** at the root level of the drive containing the file or drawing being accessed.

If it does not exist, it will prompt you if you wish to create one.

This will result in several databases being maintained by Slick!. A better method would be to create the database in a user specified directory. See following.

User Directory

When you specify a user directory, Slick! will look for and maintain a single database in that directory. You can use this database as a centralized storage of information for all your files.
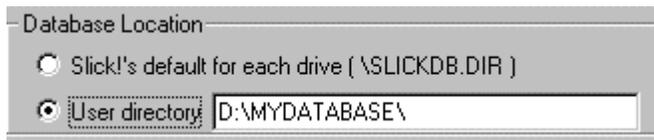
Simply click on the user directory button and enter a name in the directory box. When you run Slick! will attempt to create this directory if it does not exist.

Another advantage of using the user directory is that you do not have to set the slickdbf environment variable at DOS level before entering Windows! You can reconfigure the user directory by staying in the Windows environment.

Environment Variables

You may use any of the following environment variables with Slick!:

SLICKDBF   - to specify the database directory
ACAD   - to specify the location of AutoCAD support files
SLICKDEFTYPE   - to specify unrecognized file types

Setting Variables

Windows 95 autoexec.bat

You may set enviroment variables in Windows 95 by adding a line to the autoexec.bat file. The syntax of the command is:

SET VARIABLE=value

The variable name must be in uppercase; no spaces before and after the equal sign.

For example:
SET ACAD=E:\ACADR14\FONTS;E:\ACADR14\SUPPORT

Windows 95/98/NT 4.0 Control Panel

In the Control Panel, choose System. In the System Properties dialog box, choose the Environment Tab. In the Variable box, enter the environment variable name. In the Value box, enter the required information.
Then choose Set, choose OK.

See example below for setting the ACAD environment variable.
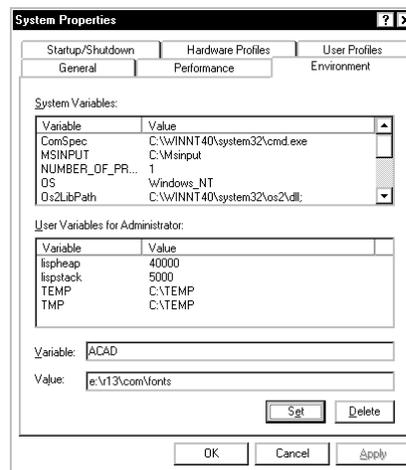
The new variable will now be listed in the User Environment list box. Then **reboot** the system for the new environment variable to take effect.

SLICKDBF environment variable

This variable specifies the directory containing the database file *slickdb.dbf* you wish Slick! to use. The default directory is *slickdb.dir* at the root level of the drive containing the file being accessed. Ex. *c:\slickdb.dir\slickdb.dbf*

If you have configured Slick! to use the default directory, Slick! checks if SLICKDBF is set. If it is set, it overrides the default directory. For example,
    SET SLICKDBF=C:\MARKETING

If you have configured Slick! to use a specific User Directory, the user directory is **always** used. Slick! disregards any setting of SLICKDBF. See Database Configuration above.

The main purpose of this variable is so that you can define multiple databases

with the same or different structures and each database residing in its own directory. For more information on the proper use of this environment variable, see the *Database General* section of this manual

SLICKDEFTYPE

Set unrecognized default file type. If Slick! cannot determine the file type, it will assume that the file is one of the following:

1   -   DWG   2   -   SLD   3   -   PLT

For example, if you want the default file type to be for plot files:
    SET SLICKDEFTYPE=3

ACAD

This variable is normally used by AutoCAD users to specify the location of AutoCAD support files, fonts, drivers, and others. Slick! for Windows will use the same search path specified by this variable for locating external references (XREF files). Slick! also uses this variable to locate fonts or shape files if these cannot be located in the SHX directory you specified at configuration.

Running Slick!

You can now run Slick! from the Start menu. If you are running Slick! for the first time, the License screen will appear. You may run Slick! for demo purposes or as a licensed user.
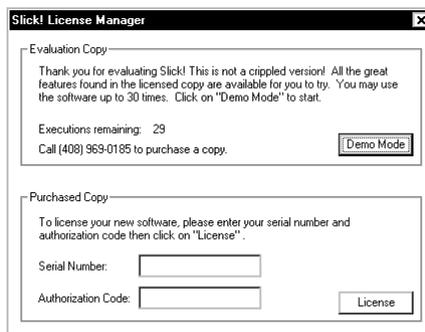
As a Demo User

If you have not purchased a Slick! license, you may evaluate Slick! by clicking on the "Demo Mode" button.

As a Licensed User

Enter your serial number in the space provided. The serial number is fifteen (15) characters long and must be entered exactly. There should be no spaces

in the serial number field.

Enter your eight character authorization code in the space provided. The authorization code is in uppercase. Authorization codes are provided to the end-users of the product. If you have not received your authorization code, contact CAD Systems Unlimited, Inc. by email or fax.
Please provide your name, company name, mailing address, telephone, and email address if any.

CSUI's email address is: sales@slickwin.com

Fax number is: 408-988-3677

Click on the "License" button when finished. This license screen will no longer be displayed once the serial number and authorization code have been validated.

Invalid code(s) message will be displayed if incorrect codes are entered.
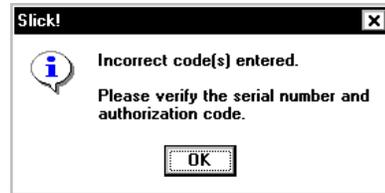
Network Installation

File Server Setup

Slick! uses the same setup program for both network and single-user versions. However, when you are installing the network version, the Slick! executable files **must** be installed on a network server.

Generic Implementation

Slick! offers a generic network solution using standard DOS / Windows file sharing conventions. It has been tested on Novell, 3Com and several other networks without any problems.

File Level Lock-out

In general, the network version incorporates file level lock-out. That is, two users may not delete, rename, or copy the same file simultaneously. For database users, the database record is locked out while it is being updated by a user connected to the network.

Concurrent Users

Slick! automatically monitors how many users are concurrently using the

software. It maintains this information in a file named **slick.pct**. Normally this file is found along with the executable files. However, on networks requiring read-only permission on the executable directory, you must move **slick.pct** to a read-write directory. See the discussion below on networks requiring read-only permission on executables.

Networks Requiring Read-Only Permission

Bypass this discussion if you are using a Novell Network. Some networks require read-only permission on shared executables. These include 3COM, DEC Pathworks, and others. If this is the case for the network you are using, you must change the attributes of all Slick! files to read-only. This is accomplished by going to the Slick! directory on the network drive and executing the following DOS command:
```
G> attrib +R *.*
```
Make sure you're in the Slick! directory when you execute the above command.

slick.pct file

On networks requiring **read-only** permission on the executables directory, you **must** move *slick.pct* to a **read-write** directory!

To inform Slick! of the location of this directory, a text file called *slickshr.dir* must be created by the user in the directory containing the Slick! executables. The file *slickshr.dir* should contain a single line specifying the path to the read-write directory. The read-write directory drive should be located in the **same** drive as the drive for the Slick! executables directory!

For example: If Slick! is installed on the network server's *G:\cad\slick* directory and the read-write directory is *G:\cad\slick\tmp* then:
·   Copy *slick.pct* from *G:\cad\slick* to *G:\cad\slick\tmp*
·   Create a file called *slickshr.dir* in *G:\cad\slick* with a text editor.
It should contain the single line entry:
```
G:\cad\slick\tmp
```

Restoring corrupted slick.pct

Users using Slick! on the network should exit Slick! when finished. If they abnormally terminate by simply powering off their system, Slick! still thinks that they are logged on and will not decrement the counter. At which time the slick.pct file no longer holds valid information.

"Maximum number of users exceeded" error message

If you start getting this error message and you know for sure that you have not exceeded the purchased number of licenses, you must restore the slick.pct to

its original state.

To restore the slick.pct file:
- ?? make sure everyone using Slick! is logged off
- ?? **delete** the slick.pct from the network drive
- ?? Slick! will **recreate** this file based on your existing license when a starts the program. Be prepared to enter the authorization code.

SLICKDB.DIR Creation Rights

If you did not specify a User Directory for the database files, Slick! creates a directory called *slickdb.dir* for its database file on the root of the drive containing your drawings. If this drive happens to be a network drive, Slick! must have directory creation rights on the root level. If you do not wish to grant Slick! the creation right, just manually create the *\slickdb.dir* directory. This directory will contain the database files.

Concurrent file viewing and redlining

Slick! will allow several users to view and redline the same file simultaneously. It is best however that users each use different redline (.rdl) names or directories when redlining the same drawing. Otherwise, they will be overwriting each others redline file. However, other applications might prevent Slick! from access to the file. For example, AutoCAD locks a drawing file if it is being edited.

Network Configuration

Each workstation using Slick! on the network must be configured separately! You cannot simply copy the configuration file slickdev.cfg from the network drive to each local station!

The procedure is the same that for single user licenses. When a client first runs Slick!, the program will ask for a configuration directory. This should be located preferably in the client's local hard drive.

Diskless Workstations

For diskless workstations, you must specify a configuration directory per user on the network server. For example, K>MD SKUSER1; K>MD SKUSER2. Slick! must have *read, write, and create* access to this directory.

Uninstall

To uninstall Slick!, choose Add/Remove Programs from Control Panel, In the dialog box, select the entry for Slick! and choose Add/Remove.

Quick Start

This will provide you an overview on how to:
- ?? select and view a file
- ?? zoom in an out of the graphics window
- ?? panning around the graphics window
- ?? zoom to the extents of graphics window
- ?? creating and entering database information
- ?? tagging and untagging files

Mouse Buttons

Mouse Left Button
Use this button to "pick" items as indicated in the manual; items picked include files, directories, menus, and other.

Mouse Right Button
This activates special zoom functions for Group II files. You may also use this button to terminate a command. For example, it may be used to terminate a zoom window operation when viewing a file.

Opening Screen

When you first enter Slick!, a blank opening screen will appear as shown below.

Directories
[\]
[..]
[-a-]
[-b-]
[-c-]
[-d-]
[-e-]

Click on [\] to go to root. Click on [..] to move up one level.

D:\SKWIN40
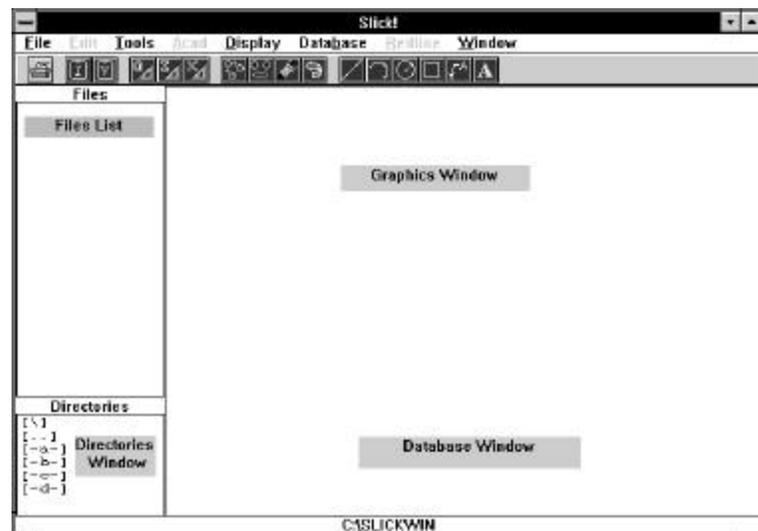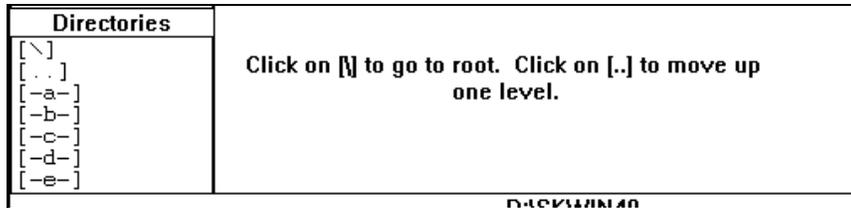
Directory List This area lists the subdirectories contained in the current directory. Double-click on a list entry it to change the current directory or to select a different drive.   To move up one directory level, select the entry showing **[..]**.

Files List This area lists the files contained in the current directory. Double-click on a list entry to select a file for viewing or other operations.

Graphics Window Displays the contents of the selected file if the format is supported by Slick! The filename is shown in the graphics window title bar. The graphics title bar is highlighted if the graphics window is currently active.

Tool Bar   Displays icons for common Slick! commands including printing, interfacing to AutoCAD for Windows, and redlining.

Database Window Displays the contents of the database record attached to a file.   The corresponding filename is shown in the database window title bar. The database title bar is highlighted if the database window is currently active.

After you have selected a file from the directory and file lists and entered database information, the Slick! screen will be similar to the one shown below.
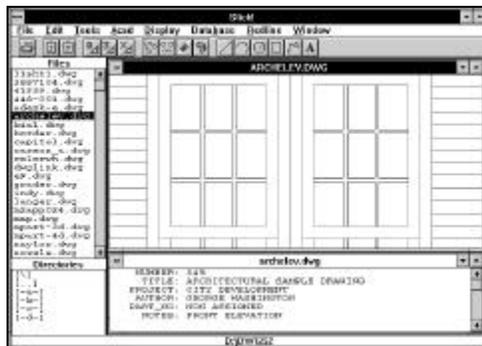
Create a Database File

When you first run Slick!, it will ask your permission to create a database file in the drive you select. In general, Slick! requires one database file per drive. It is created at the root level in the directory slickdb.dir. You may optionally specify a User Directory by configuring your database. Select Yes.

Filespec

During configuration you specified the file extensions to display at startup. You may choose File ? Filespec command to temporarily override the specifications.

Select a File

The cursor changes to an arrow when you move it to the directory or file list area. Select a directory from the directory list. You may use the scroll bar to navigate through the list. Double-click to the desired directory. The file names will be displayed in the files list area. Double-click the desired filename. Slick! then displays the file in the graphics window.

Display database information only

A **single click** on a filename will display the database information for that file. It will not change the contents of the graphics window! You can also use the up or down cursor keys to display the previous or next record.

Zoom Extents

To zoom extents, click on the right-mouse button.

Interrupt Display

To interrupt the graphics display, click on the left-mouse button followed by a click on the right-mouse button. This actually initizates the zoom operation which is then canceled.

Enter Database Field Information

You may at this point start entering database information for the selected file. Position the cursor over the desired field name in the database window (for example, NUMBER), single-click with the left mouse button, and press the ENTER key.

A dialog box will appear to allow you to enter information for the selected field. Select OK when finished. Proceed to enter information for the other field names (for example, TITLE, AUTHOR) if you wish.

Zooms and Pans (Group I files only)

Zoom Window

You may zoom in into any portion of the drawing by picking any point on the graphics window and dragging the mouse to define a rectangular area. Finish the zoom operation with another pick. You may cancel the zoom operation by clicking the right-mouse button.
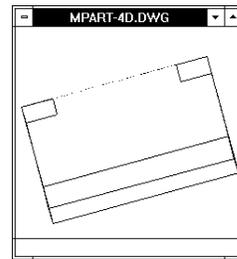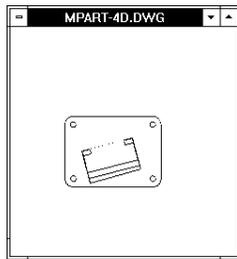
Pan

You may pan around the drawing by placing the cursor at any point on the drawing and double-clicking with the left mouse button. The desired point will shift to the center of the graphics window. In the example below, the crosshair is the pick point.
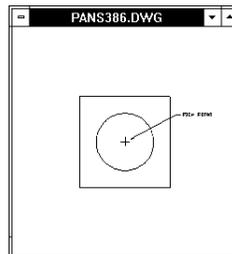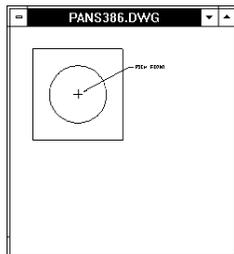
Zoom Extents

To zoom to the extents of the drawing, click on the right mouse button.

Zooms and Pans (Group II files only)

Zoom

If the zoom function is available for the file type, you may click on the right-mouse button to display the dialog box shown below. You may then select any of the available menu items to size and zoom in on the graphics.

Copy		In		√ Original Size
Print...		Out		Fit to Window
Show Full Screen		Selection		**Fit to Window Height**
Size ▶		Reset		Fit to Window Width
Zoom ▶				Stretch to Window
Options ▶				
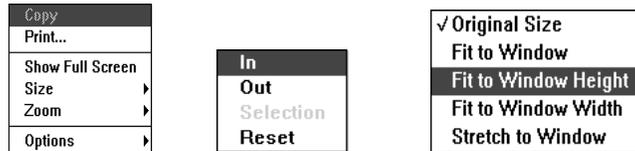
Pan

If panning is supported for the file type, scroll bars will be displayed. Use the arrow keys to pan.

Tagging and Untagging files

Some commands may operate on several tagged files. For example, copy, delete, rename, and print/plot. Slick! follows Windows conventions for selecting multiple files.

To tag two or more items in sequence:
• Click the first file you want to select.
• Press and hold down SHIFT while you click the last item in the group.

To tag two or more items out of sequence:
• Press and hold down CTRL while you click each item.

To untag multiple tagged files, simply select a single item.

Refresh Directory List

This command is available from the File menu in the Slick! menu bar. It reads the currently selected directory again and updates the file list area with the latest information. This is used in networked environments where file entries are continuously being added, renamed, or deleted by other users.

Clipboard

You may copy the contents of the Slick! graphics window into the Windows Clipboard in either Image or Vector format. These commands are found in the Edit menu of the Slick! menu bar.

You may then use the Paste command in the destination application to

transfer the contents of the clipboard to the application document. **Note:** Not all Windows applications support the Paste command.

Copy Image 🄸

A Windows bit-mapped, .DIB format, representation of the graphics window is copied to the clipboard.

Copy Vectors 🅅

A Windows vector, .WMF metafile format, representation of the graphics window is copied to the clipboard.

Tool Bar

Often used commands are available by clicking an icon in the tool bar. Slick! enables or disables certain icons if they are not appropriate. Disabled icons are marked by a black background. For example, the AutoCAD related icons for open, insert, and xref are disabled if you are not viewing an AutoCAD drawing. Also, redlining or annotating icons are enabled only if the graphics screen is active.

PRINT
Activates the print dialogue box.

RUN Application
Runs the application if any associated with the selected file.

Run Application
Application:	d:\R13\WIN\acad.exe
Parameters:	D:\DWGS2\GRADER.DWG
☐ Run minimized
OK	Cancel
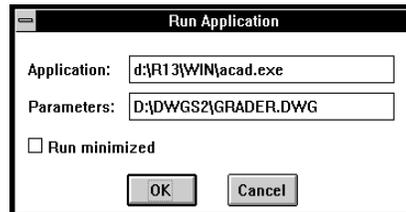
DDE icons

COPY IMAGE
Copies graphics screen to the clipboard using Image format

COPY VECTOR
Copies graphics screen to the clipboard using Vector format

AutoCAD icons

OPEN Drawing
Opens active drawing in AutoCAD for Windows

INSERT Drawing
Inserts drawing as block in AutoCAD for Windows

XREF File
Inserts drawing as external reference in AutoCAD for Windows

Annotating / Redlining icons

REDLINE COPY
Copies selected redline entities

REDLINE MOVE
Moves selected redline entities

REDLINE ERASE
Erases selected redline entities

REDLINE UNDO
Select to undo last redline command

REDLINE LINE
Draws a line

REDLINE ARC
Draws an arc

REDLINE CIRCLE

Draws a circle

REDLINE BOX
Draws a box

REDLINE LEADER
Draws a leader line with text

REDLINE TEXT
Enters text information
Make sure that you have previously set the text height

Keyboard shortcuts

+   Zoom in by a factor of 2 (Zoom 2X)

-    Zoom out by a factor of .5 (Zoom .5x)

?   ?   Use the up and down keyboard arrow keys to quickly browse thru the
contents of the database.   Note: this does not cause the associated file to
be displayed in the graphics window. Double-click with the left-mouse
button to view the file.

Viewing

Slick! for Windows v8.0 supports viewing of over 200 file formats. The complete list is in the Supported Formats chapter at the end of this manual. Always consult the Slick! Documentation file in Windows for the latest changes.

If you have gone through the Quick Start section, you should now be able to do general file viewing. To view a file, simply double-click the filename in the file list area. If supported, the file is displayed in the graphics window. The display is affected by the default configuration settings (see *Installation* section) and the current settings (see *Settings* menu below).

Display Menu Commands

File Information

Use this command to display information on the current file. The contents of the information screen will change depending on the file type.

For AutoCAD drawings, Slick! displays the file name, file size, creation date and time, last update date and time, and the total edit time in days, hours, and minutes. For example:

```
Slick!                                    ☒

File: E:\acadlt\sample\office.dwg
Date: Fri May 17 09:03:12 1996  Size:    86300

Date Created:       11/03/1993        17:01
Total Edit Time:    0 DAYS 0:01

                  ┌─────────┐
                  │   OK    │
                  └─────────┘
```
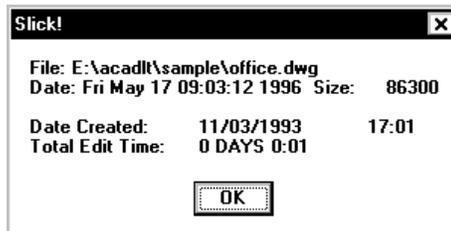
For graphics files, Slick! displays the file name, size, creation date, width and height in pixels, and bits per pixel. For example a 24-bit JPEG file might display the following information:

```
Slick!                                    ☒

File: D:\SKTIFFS\ARCHELEV.TIF
Date: Fri Mar 04 11:03:52 1994  Size:    42052

Width: 406          Height: 206        Bits: 4

                  ┌─────────┐
                  │   OK    │
                  └─────────┘
```
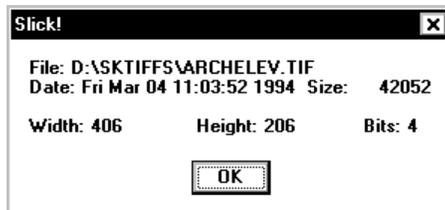
Set DWG Layout

Slick v8.0 now supports the viewing of drawing layouts which were implemented in AutoCAD 2000/2002.

Select Set DWG Layout from the Display menu. Select the desired layout and press OK.

Layers

Use to control the visibility of AutoCAD drawing layers. The drawing layer table is displayed showing all the layers defined for the current drawing. Only those layers whose status is set to *ON* are visible on the screen. Double-click on a layer name to toggle the status ON or OFF. Pick OK to return to the main menu. Following figure shows a sample layer table:
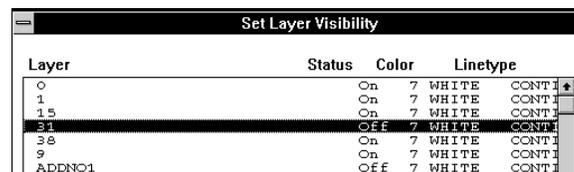
Set Layer Visibility				
Layer	Status	Color	Linetype	
O	On	7	WHITE	CONTI
1	On	7	WHITE	CONTI
15	On	7	WHITE	CONTI
31	Off	7	WHITE	CONTI
38	On	7	WHITE	CONTI
9	On	7	WHITE	CONTI
ADDNO1	Off	7	WHITE	CONTI

Camera

Use this command to set the viewpoint of a 3D drawing. Slick! displays a Set View Direction dialogue box. Think of your drawing as being enclosed by a *"globe"*. The camera is on the surface of this globe pointed to the center of the globe. The camera position is determined by two variables namely *longitude* and *latitude*.

Set View Direction	
back	Latitude 30
left plan right	Longitude 0
front	Twist 0
OK Cancel	
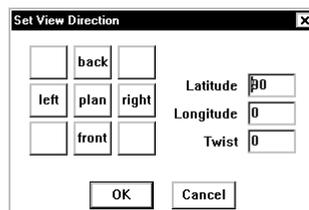
Longitude

Longitude is the angular distance east or west measured in degrees. To change longitude, pick the box next to it and enter the desired value.

Latitude

Latitude is the angular distance north or south measured in degrees. To change latitude, pick the box next to it and enter the desired value. Normally, you would first set the value of the latitude and then rotate the view

of the drawing by varying the longitude. For your convenience, the Camera Direction Menu allows you to change the value of the longitude by specifying plan, left, right, or back view. Selecting any of these will automatically display the drawing at the new viewpoint.

If latitude is set to 90 degrees, selecting *LEFT, RIGHT, BACK, FRONT* will cause latitude to be set to 0 degrees for elevation viewing. Otherwise, the current latitude setting is retained. If you wish to use the values that you have set for longitude and latitude, select OK from the Camera menu.

LONGITUDE AND LATITUDE
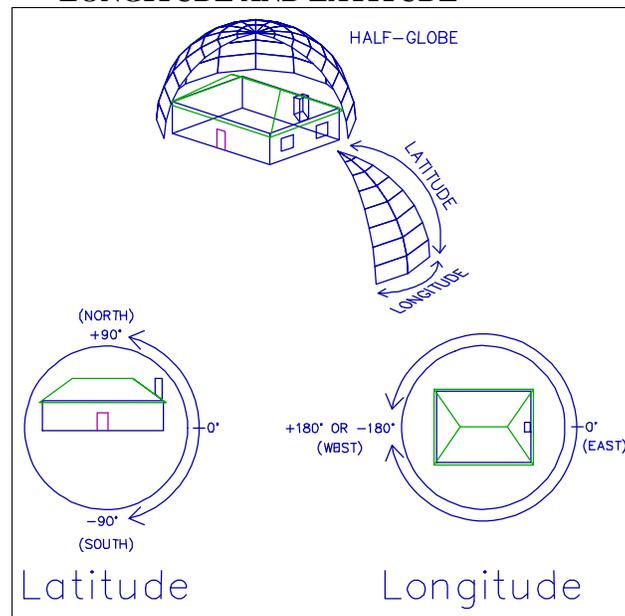
Twist

The angle by which the camera is rotated about the line of sight. It is measured in degrees counterclockwise. Use this command to rotate raster images.

0 deg twist	-90 deg twist	+90 deg twist

New Window

A new graphics and database window will be created by Slick!. The windows will be empty until you pick another file list.

Note: When working with multiple windows, you have to size and move the graphics windows and related database windows in order that you may see a portion of each. Otherwise, the windows will overlay each other completely.

You can use the Tile and Cascade commands in the Windows menu to arange these windows automatically for you.

Zoom 2X

Pick this command to zoom in by a factor of two or simply hit plus (+) key on the keyboard.

Zoom .5x

Pick this command to zoom out by a factor of two or simply hit the minus (-) key on the keyboard.

Flipx / Flipy

These commands are for raster files only. Pick to flip the image on the x or y-axis. Use the Display – Camera – Twist command to rotate the images.

Settings

You may use this command to temporarily override the default settings you defined in Slick!'s configuration file. To change the default settings, you must reconfigure Slick!
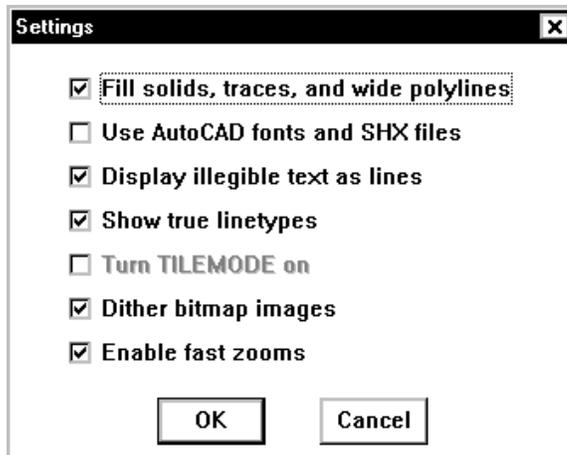
You may enable or disable a setting by selecting it with the left mouse button. A setting is enabled if it is marked by an X.

Fill solids, traces, and wide polylines
Select to enable area fill of the above drawing entities

Use AutoCAD fonts and SHX files
Select to use AutoCAD .SHX files.

If Slick! cannot locate the AutoCAD text or shape file(s), it will display at
the bottom of the screen the error message(s):
"Cannot find ....shx file"

MAKE SURE THAT THE SHX DIRECTORY PATH YOU HAVE
SPECIFIED IN CONFIGURATION IS CORRECT AND THAT THESE
DIRECTORIES ACTUALLY CONTAIN YOUR SHX FILES!

Display illegible text as lines
Select to display text that is not readable as lines.

Show true linetypes
Select to enable AutoCAD linetypes.

Turn TILEMODE on
Select to turn Tilemode on. This selection is dimmed if the drawing does not
contain a paper space definition.
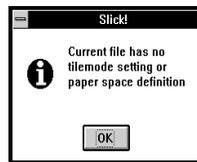
This setting may be used only for R11 or R12 drawings. Setting Tilemode
ON actives model space. Turning it OFF activates paper space. If Tilemode
is set to OFF and the drawing does not contain a paper space definition, Slick!
displays the error message shown above.

Dither bitmap images
Dithering mixes pixels to produce a perception of more colors than are
actually available. Although it produces an appearance of more colors, it can
decrease the apparent sharpness of the image. Dithering is recomended for
images which have sharp lines and multiple colors such as CAD images.

Enable Fast Zooms
When enabled, illegible text is displayed as straight lines.

Window Commands

These commands control how multiple graphics and database windows are displayed on the screen.

Cascade
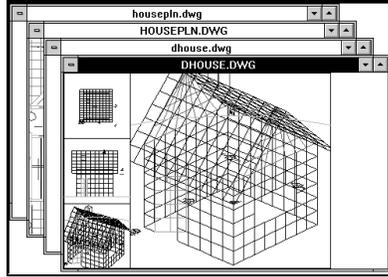
Tile
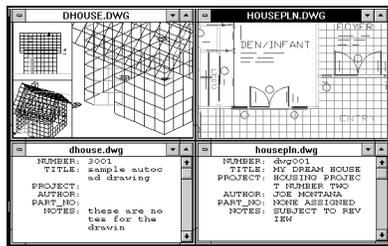
Arrange Icons

Use this command to arrange Slick! icons.

Close All

Use this command to close all Slick! windows.

Viewing Tips

HPGL Plot Files

Slick! by default recognizes .plt as an HPGL plot file. If your plot file has a different extension, Slick might not recognize it. In this case, try changing the extension to .plt.

In some cases, plot files may be mirrored on the x and y-axes. To view properly, click on the View – Camera command and set Latitude to –90 degrees and Twist to 180.

Visio VSD Files

Slick will view the Preview Picture saved with the file. For Slick! to be able to view text, set the VSD File Properties as follows before saving the file: File ?   Summary ?   Preview Picture ?   Detailed.

Tools

File utilities are available from the Tools command in the Slick! menu bar. File utility commands work on the currently active file. Slick! determines the active file based on which Slick! window is active. Files associated with an active graphics or database window have a higher priority than files selected in the files area.

Active Window	**Active File**
Files Area	Selected file or tagged files
Graphics Window	File displayed in graphics window
Database Window	File displayed in database window; It is the file associated with the database record.

Copy
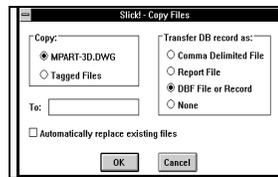
You may use the copy command to:
·   copy the current file being viewed to another file
·   copy previously tagged files to another directory;

You may select the "Automatically replace existing files" option if you do not wish Slick! to prompt for confirmation.

Copy Database Record Options

You may also set an option on whether or not to copy the database record attached to this file and in what form. For more information on Database records, see the Database section of this manual.

Comma delimited file
Use this option to output the database record to a comma delimited file.

Report file
Use this option to create an ASCII formatted file.

DBF File or Record
Use this option to copy the existing database information to a new record in SLICKDB.DBF residing in the destination drive. Slick! creates the file automatically if it does not exist.

? Slick! will copy the database record to SLICKDB.DBF in the destination drive only if the structures are identical! If not Slick! displays the error message:
Databases not identical. Record not copied!

If the structures are different, you should use the Database Export/Import instead. See section on Database Import/Export.

?   Slick! will copy the database record even if you did not allow editing of database records during configuration!

None
Use this option if you do not wish to copy the database information to the new file.

Copy active file

Select the active file option instead of the Tagged Files option. In the To box, enter the destination filename. Select OK when finished.

If the drive and path are not specified, the default path is the current directory as shown at the bottom of the screen. You must enter a destination filename or directory to copy a file!

Copy tagged files

Before entering the copy command, tag all those files you wish to copy into another subdirectory. Pick the Tagged Files option. The <current file> option is displayed only if a file has previously been selected for viewing. In the To box, enter the destination path. The destination path must be different from the current directory as shown at the bottom of the screen. Select OK when finished.

Proceed to enter the database copy options as described above in single file copying.

Error messages
Message: *The destination you specified is invalid or is currently open*
Reason: The destination path does not exist or the file is currently being used.

Message: *Files can't be copied over themselves. Copy aborted.*
Reason: You cannot copy a file to itself.

Copy for backup purposes
The copy command is useful for backing up inactive drawings together with their attached database records to conserve harddisk space. After copying, the drawings can be deleted and the database purged of the database records. The drawings can later be copied back to the harddisk as needed.

Delete

You may use the delete command to:
· delete the current file being viewed
· delete previously tagged files.
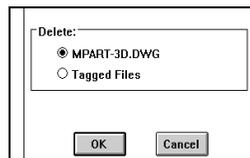
Delete the active file
Select the active file option instead of the Tagged Files option. Select OK when finished.

?   If you have not previously selected a file to view, the delete command will not show a filename! Only the tagged files option will be displayed!

Delete tagged files
Pick the Tagged Files option. Pick *OK* to execute or *Cancel* to terminate.

Slick! prompts: *Confirm with you before deleting each file?* Reply *Y* or *N*. If *N*, files will be deleted without confirmation; Otherwise, Slick! prompts: *Delete <filename>*. Reply *Y* or *N*.

Deleted Files and Database Records
Do not confuse the delete command from the tools menu with the Delete Record command in the Database menu. *Tools ? Delete* physically deletes files, for example, drawings, slides, etc. *Database ? Delete Record* marks

database records for deletion. See section on database utilities.

If a deleted file has a corresponding database record attached to it, the database record is automatically **marked** for deletion. This is true even if editing of database records was disabled during configuration. It is not physically deleted from the database file until it is **purged** by the *Database ? Purge* command. As long as the database has not been purged, you may still use the database browse command to review information on files you have deleted.

? If you copy a deleted file back to the same directory where it existed, and a database record was attached to it, Slick! will automatically relink the database record to it as long as the database has not been purged!

Rename

The rename command works only if a file has previously been selected for viewing.   In the To box, type the new filename with the required file extension (for example, .DWG). The current directory as shown at the bottom of the Slick! screen is always used when renaming files. Pick *OK* to execute or *Cancel* to terminate.

Error Messages

Message: *No file has been selected for renaming.*
Reason: You must select a file before you can rename it!

Message: *Duplicate filename or access denied*
Reason: The new filename already exists.

Message: *Invalid filename*
Reason: The new name is not a valid DOS file name.

Make Directory

```
┌─────────────────────────────────┐
│            Slick!               │
│ Name of directory to            │
│ create: ┌─────────────────────┐ │
│         └─────────────────────┘ │
│                                 │
│        ┌──────┐   ┌────────┐    │
│        │  OK  │   │ Cancel │    │
│        └──────┘   └────────┘    │
└─────────────────────────────────┘
```

Use this command to create a new directory. In the box, enter the pathname for the new directory **without the drive letter**. The pathname maybe fully or partially qualified.

Error Messages

Message: *Unable to create <directory>*
Reason: Invalid path was specified or the directory already exists.

Delete Directory

```
┌─────────────────────────────────┐
│ Name of directory to            │
│ delete: ┌─────────────────────┐ │
│         │\DWGS2               │ │
│         └─────────────────────┘ │
│      ┌──────┐   ┌────────┐      │
│      │  OK  │   │ Cancel │      │
│      └──────┘   └────────┘      │
└─────────────────────────────────┘
```
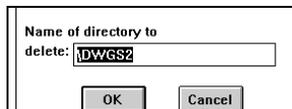
Use this command to delete a directory. In the box, enter a directory path if different from the default. Select OK when finished.

Error Messages

Message: *Unable to delete <directory>*
Reason: Invalid directory name was specified or the directory contains files.

Tag All

Use this command to tag all the files in the current directory. Upon execution, all the file names in the Files area will be highlighted.

? Tag information is lost when another directory or drive is selected!

Untag All

Use this command to untag all the files in the current directory.

Raster Convert

Slick! for Windows v8.0 now features the ability to convert a raster image from one format to another. You **cannot** convert raster formats to vector formats!.

Raster Convert Formats

In general, Slick! allows you to convert any of the file formats it is capable of viewing to a specified raster format.

```
┌─────────────────────────────────────────────────┐
│ ▬          Convert Raster Format                │
├─────────────────────────────────────────────────┤
│ ┌Convert:──────┐   Path: d:\swin_man\wpgs        │
│ │              │   ┌──────────────────────┐ ┌─┐  │
│ │ ◉ SETDIALG.TIF│   │[..]                  │ │↑│  │
│ │              │   │[-a-]                 │ └─┘  │
│ │ ○ Tagged Files│   │[-b-]                 │      │
│ │              │   │[-c-]                 │ ┌─┐  │
│ └──────────────┘   └──────────────────────┘ │↓│  │
│                                              └─┘  │
│ Target Format: │.tif - TIFF Uncompressed    │ │±│ │
│                                                   │
│ Maximum Target Resolution: │1024│                 │
│ ☐ Black and white output                          │
│         ┌──────┐      ┌────────┐                  │
│         │  OK  │      │ Cancel │                  │
│         └──────┘      └────────┘                  │
└─────────────────────────────────────────────────┘
```
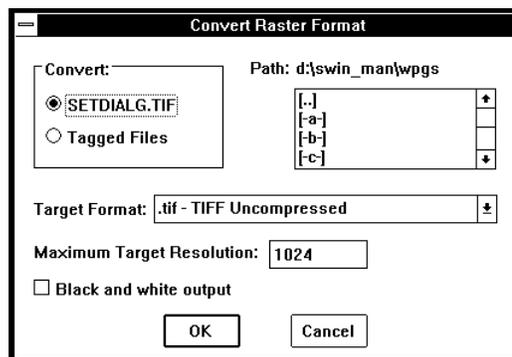
Source File
The name of the current file being viewed is shown on the upper left side of the dialogue box.

Destination Target File Path
By default Slick! creates the converted file in the same directory as the source file. Slick! will use the same filename as the source file and the new extension. You may change the destination path by using the list box at the upper right corner of the dialogue box.

*Make sure that the user has **file creation rights** to the destination target. Otherwise, Slick! will not be able to create the converted file and you will get an error message at the bottom of the Slick! window!*

Target Format
Select the format you wish to convert to from the target format list box below.

Maximum Target Resolution
Specify the maximum pixel resolution for the target format. Higher values give a more detailed ouput at the expense of file size. It is primarily used when converting vector to raster format.

The maximum resolution allowable for Windows 95, 98, and ME is 2048 pixels. The maximum resolution for Windows NT, 2000, and XP is 8192 pixels. The maximum resolution for color output images is 3072 pixels.

Warning! When converting to color images, the file size can be very large!

Black and white output
Transforms color graphics to black and white.

No raster to vector conversion

Slick! cannot convert a raster image to a vector file. For example, Slick! cannot convert a scanned TIF file to an AutoCAD dwg file. This requires specialized software. However, Slick! can convert a dwg file to a raster file such as a PCX or JPG file.

Exceptions

In general, Slick! cannot convert the following:
??   1 bit raster file to TGA
??   any raster file to GIF

Note: Use File Info from the Tools menu bar to display information about the raster file.

Make Vector WPG

Creates a Word Perfect Graphics vector file from the image.

Print / Plot

To print the contents of the graphics window, select File ?   Print/Plot from the menu bar. Slick! can print or plot directly to the Windows printer or plotter. In this discussion, the term printing has the same meaning as plotting unless otherwise stated. Slick! will display a different print dialog box depending on whether you are viewing a Group I or Group II file.

AutoCAD Fonts and Shape Files

In order to print AutoCAD fonts and shape files, Slick! must be configured to enable this feature. The directory containing the .SHX files must also be set. See Configuration section. If fonts and shape files are disabled Slick! will use its internal fonts for text and shapes will not be displayed or printed.

AutoCAD Line Types

If AutoCAD linetypes are disabled during configuration, Slick! will only plot/print straight lines!

Solid Fills and Wide Polylines

If solid fills and wide polylines are disabled during configuration, Slick! will only plot/print solids and wide polylines in outline form!

Hidden Line Removal:

Slick! does not support hidden line removal directly when plotting a drawing. Plotting a drawing in AutoCAD with hidden line removal takes a long time. This process has to be done each time you plot the drawing. To save time, use AutoCAD's **HIDE** command once, make a slide of the display, and use Slick! to plot the slide!

Print time

The time it takes to print depends to a large degree on the size of the printed image. Printing large raster files can take several minutes. It sometimes appears that your system has stopped working. All it takes is a little patience.

Line Weights

Slick! v8.0 now supports AutoCAD 2000/2002 line weights. It does not support line weights for previous release of AutoCAD.

Print / Plot Dialogue Box for Group I Files
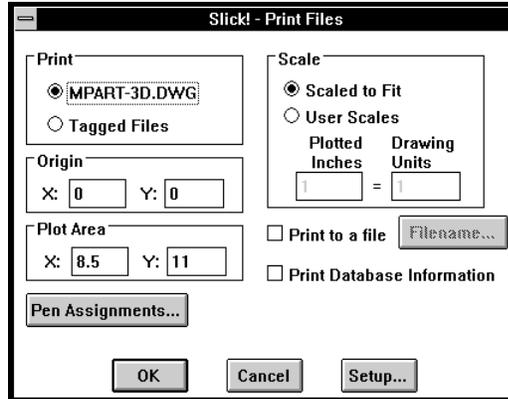
Print / Plot Dialog box for Group II files

The print command will display the standard Windows printer dialog box.
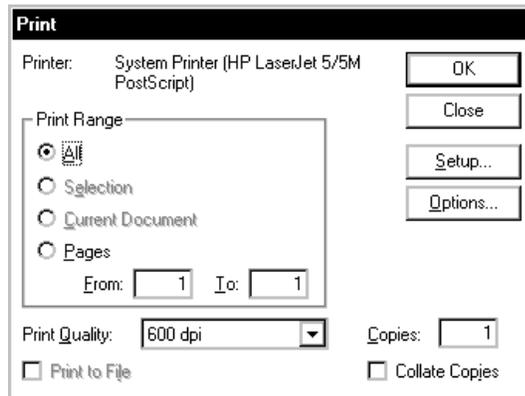
Printer Setup

If you want to print to a different printer other than the one you last used in Windows or change paper orientation to Landscape or Portrait, choose Setup command.

Temporary Changes

Changes you make using the Slick! Print Setup are only **temporary** while you are running Slick!. If you wish to make permanent changes or if you wish to change a printer option that is not available thru the Slick! Setup program, you should do this through the Windows Control Panel ?   Printers settings.
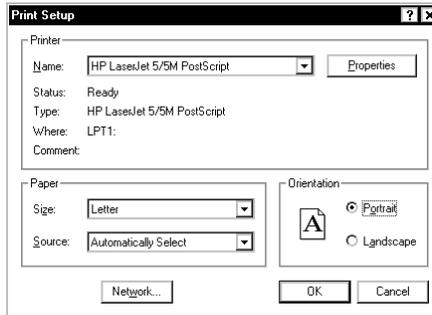
Printing the Active File

If a file is currently active and displayed in the graphics window, the filename is automatically displayed beside the current file option. If not already selected, pick this option. Set the desired options if any then select OK to start printing.

Printing Tagged Files

If you wish to print several files (batch print), select the Tagged Files option. You must have previously tagged several files.

?   On single file plots, the current display is plotted (same as AutoCAD's plot display option). On tagged plots, the last view of the drawing will be printed if you have set this option during configuration.

Otherwise, the drawing extents will be printed. See Configuration section in Installation.

Print Options

The default values for the (X, Y) origin is (0, 0) which is at the lower left corner of the paper. You may modify either the X or the Y origin by entering a value in the appropriate box.

Plot Area

The default is 8.5" wide by 11" tall for A-size portrait; This is the available plotting area for your printer. It is not the paper size! Enter width and height (X,Y) of plot area in inches.

The maximum print area available for your printer is normally less than the actual paper size. For example, if you are printing to the HP LaserJet III on 8½" by 11" paper, the maximum plot area is 8" x 10".
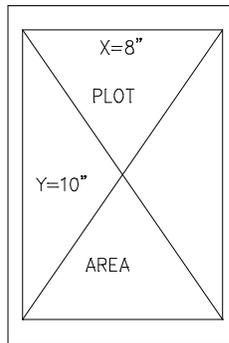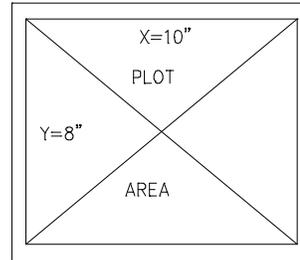
Portrait   **Landscape**

Printing in Landscape Format

When printing landscape, you must specify the plot area with the X-value greater than the Y-value. For example, 11", 8 1/2"
Otherwise, your print will be truncated on the right side of the paper.

Scale

You may select the Scaled to Fit Option or you may select User Scales. TIP: To optimize use of the available plot area, zoom and pan into your drawing so that the desired drawing information is on the left side of the display area and then plot using a scale that does not exceed the plot area.

Scaled to Fit

Slick! attempts to plot whatever drawing information is on the screen. This includes empty screen space! See following illustration.

Plot to fit may not always fill up the entire page! Slick! uses either the horizontal or vertical dimension of the display area to fit into the corresponding dimension of the plot area. Slick! considers empty screen space as part of the drawing to be plotted.

When you plot to fit in portrait mode, Slick! fits the screen area into the upper portion of the paper. In landscape mode, Slick! uses the bottom left portion. You may move the location of the plot relative to the paper by changing the plot origin from the default of 0,0.
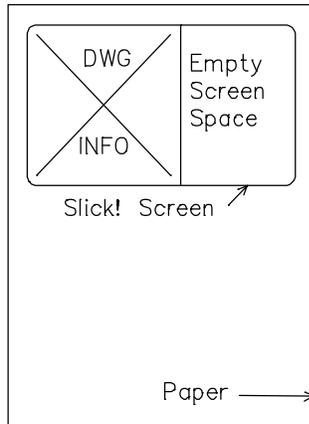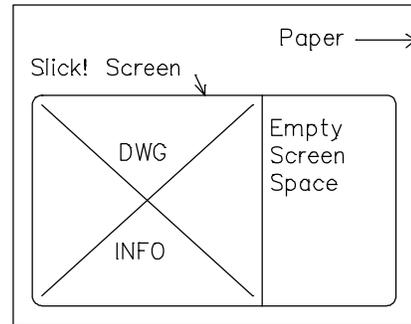
Portrait   **Landscape**

User Scales

The default is 1 = 1. This means that Slick! will print one inch per drawing unit. You may specify a different scale by modifying the values. For example, if you specify 1 = 2 (that is, one plotted inch for two drawing units), this scales down the plot size by 50%.

Plotting the display to scale will not always fit exactly in the plot area on the paper. The screen area might map into an area either larger or smaller than the plot area. If larger, it is truncated at the bounds of the plot area. If smaller, some space in the plot area is left unused.

As shown below, you may specify a scale to optimize use of available plot area.
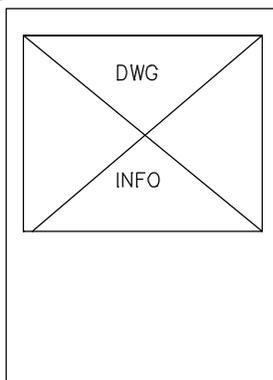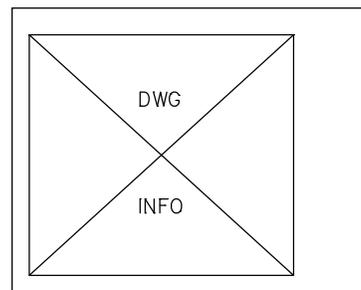
Portrait   **Landscape**

Adjusting amount of empty border space

You may adjust the amount of empty space printed by grabbing the left or right edge of the graphics window and sliding to the right or to the left. **This will only work if you are plotting to scale.** See following examples:

Before Adjustment
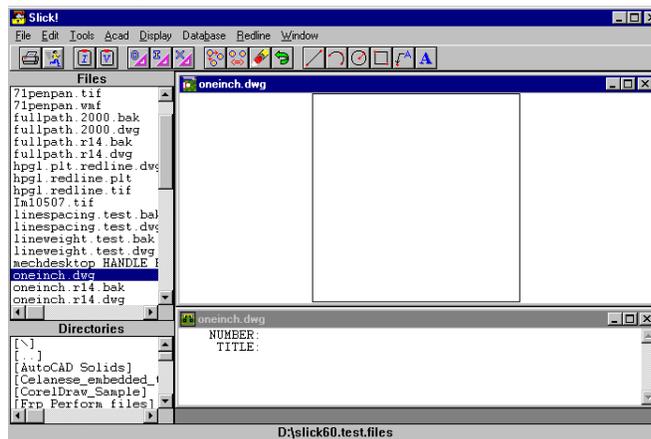
After Adjustment
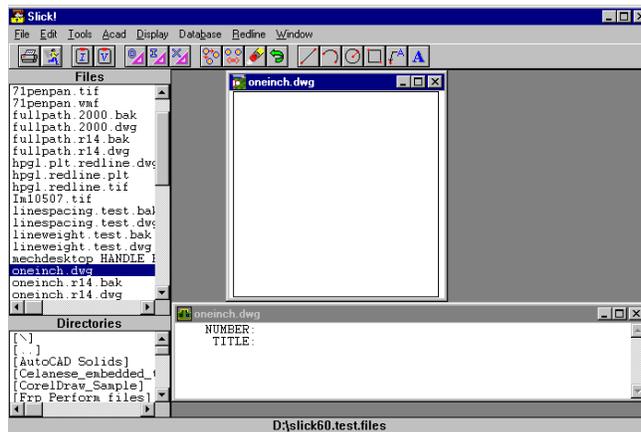
Print to a File

If selected, Slick! will create a print file in the directory where the drawing resides (default) using the drawing filename with a .plt extension. You may change the default filename and specify a different directory thru the input filename box. To print the file later, simply copy the file to the port connected to your printer. When tag plotting, the complete name of the file is used automatically without pausing for user input.

Print Database Information

By selecting this option, you may print the contents of the database record together with the graphics image.

Slick! will attempt to print the database information at the bottom of the paper if it will fit. Otherwise, the database information will be printed on the next page. User has control over the area dedicated for graphics using the **Plot Area** option above. A plot area smaller than the paper size must be specified. For obtaining graphics and text on the same page on "A" size paper, a plot area of 8x7 or 8x8 is recommended.

Pen Assignments
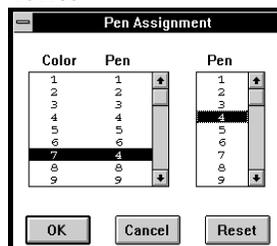
To change pen assignments, select the color first, then select the pen you wish to assign to that color. When you have finished, select OK.

Slick! cannot assign pen widths to each color. If you are using a pen plotter, simply place the correct pen tip size to its pen stall. This is not possible with laser printers.

Print to Black

Use Pen Assignments, select all the colors using standard windows selection and select pen 7.

Dithering on B&W printers

On black and white output devices, Windows will dither lines to simulate color. If this is not desirable, set all colors to pen 7 or select a "print to black" option on the printer driver if it has one. Multiple colors can be selected at once by click and drag method.

Printing Problems

Landscape print truncates right side

Make sure that the plot area is set correctly. In landscape printing, the x value should be greater than the y value. For example: x=11, y=8.5.

Print output light

This problem was solved with the release of v7.0.002. If you are using Slick! V7.0, download the updated files from www.slickwin.com.

On earlier versions, this occurs normally on high-resolution printers running at 600 dpi or more. On black and white printers, the first thing to do is to set all colors to pen 7 (black) in the Slick! print dialog box. Colored lines will now appear sharper. You may try any of the following. Setup your Windows printer to a lower resolution, enable print to black option if available, or disable dithering of bitmap images. You can also disable dithering using the Slick! configuration program.

Problem fitting entire drawing

When you print using the "scale to fit" option, Slick! tries to fit whatever is shown in the graphics screen to the plot area. You can instead set user scales. Set the user scale to a value which will fit the entire drawing onto the page.

You can also change the position of the print on the paper by setting the plot origin to a value which is different from the default of 0,0 which is the lower left corner of the plot area.

AutoCAD for Windows Interface

You may interface directly with AutoCAD Windows if an AutoCAD session is running. The available commands are Open, Insert, and Xref.

If you have multiple AutoCAD sessions running, these commands will only work on the first AutoCAD session!

If AutoCAD is not running when you execute these commands, Slick! displays an error message.

ACAD Menu

After executing any of the following commands, select the AutoCAD Window to bring it in front of the Slick! Window to continue work in AutoCAD.

Open

You may use this command to open the file you are currently viewing in AutoCAD for Windows.

If you are currently working on an AutoCAD drawing, AutoCAD will prompt if you wish to save or discard the changes to the current drawing before loading the file you have selected in Slick!

Opening a drawing in AutoCAD will close that drawing in Slick!

The following screen shows Slick! opening MPART-3D.DWG in AutoCAD for Windows.
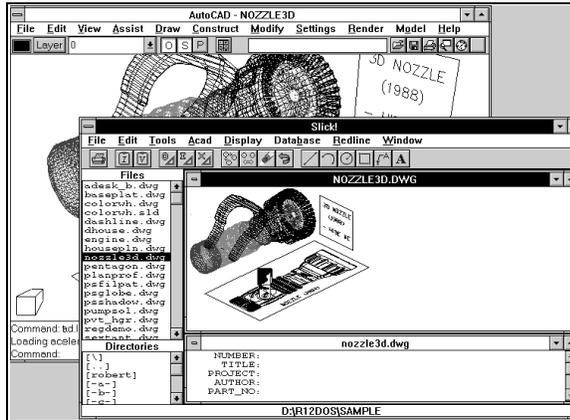
Insert

Use this command to insert the drawing you are currently viewing in Slick! as a drawing block into the drawing being edited in AutoCAD for Windows.

If the block being inserted already exists in the drawing as an internal block, AutoCAD will not redefine the block! This is true even if the block you are inserting in Slick! is different from the internal block defined in the drawing!

AutoCAD will prompt for an insertion point and scaling parameters. For more information, consult your AutoCAD manual regarding block insertions.

Xref

Use this command to attach the drawing you are currently viewing in Slick! as an external reference into the drawing being edited in AutoCAD for Windows.

As in block insertion, AutoCAD will prompt you for an insertion point. For more information, consult your AutoCAD manual regarding the Xref Attach command.

Database Overview

Main Features

Built-in Database
Slick! allows you to attach a database record to any file in your system. You are not limited to AutoCAD files!

Query Capabilities
You may query the database for information based on a set of conditions you specify.

Set Display and Report Layouts
You may control the way database information is displayed and reported.

Browse Feature
You may browse thru the contents of the database.

Import/Export Data:
Data may be imported to or exported from other databases.

Bidirectional Attribute Exchange:
Attribute data from AutoCAD drawings may be imported directly into Slick!'s database. Conversely, Slick! database data may be used to update attribute data in your AutoCAD drawings.

Year 2000 compliant
Date fields now require century.

Usage

Frequently, the AutoCAD user requires additional information to be attached to a drawing. These include data such as drawing number, title, author's name, drawing revision, and so forth. Slick! allows you to create and customize a database based on your requirements. A database file called *slickdb.dbf* will be created and maintained by Slick.

Basic Database Concepts

? **The Slick! database file *slickdb.dbf* is a separate file from your drawing or graphics files.**

? **It is a single file consisting of several records.**

? **You may create a record for any file you wish, one record per file.**

? **Each record is comprised of several fields. A field contains an item of information that relates to the drawing. For example, drawing number or title.**

? **Each field has a name, data type, and length which are defined by the database structure.**

? **Slick! requires four separate fields. One each for the DRAWING NAME, PATH, EXTENSION and ARCHIVED (which contains the drive letter where the file is located). Together these fields constitute the key which Slick! uses to associate a database record to the file.**

slickdb.dbf file and SLICKDBF environment variable

If you did not specify a User Directory during database configuration, Slick! will create slickdb.dbf in the directory *slickdb.dir* at the root level of your harddrive. If you have files across multiple harddisk drives, Slick! will create this directory in each drive!

You may however specify a different directory for *slickdb.dbf* by setting the environment variable SLICKDBF. This is a powerful feature since you can now specify multiple databases using identical or different structures and still be able to choose which one to use during a Slick! session. For more information, see **Multiple Databases** below.

When you select a file to view, Slick! checks if SLICKDBF has been set.

· If SLICKDBF is **not** set, it looks for *slickdb.dbf* in *slickdb.dir* in the root level of the drive containing the file being viewed.

· If SLICKDBF has been set, it looks for *slickdb.dbf* in the directory specified by SLICKDBF. You must create this directory before running Slick! Otherwise, you will receive the message:

Invalid SLICKDBF path: <your pathname>
Using \SLICKDB.DIR
    press a key

If *slickdb.dbf* does not exist in the *slickdb.dir* or the directory specified by SLICKDBF, Slick! displays the message:

No database created for selected drive (directory)? Create one?
Enter **Y** or **N**.

IF YOU HAVE CONFIGURED SLICK! TO USE "USER DIRECTORY", IT LOOKS FOR slickdb.dbf IN THIS DIRECTORY. IT COMPLETELY DISREGARDS THE CONTENTS OF SLICKDBF!

Default Database Structure

The initial database created by Slick! contains six fields as shown below. Their definitions are fixed and may not be modified. The first four fields: *Name, Extension, Path, and Archived* are internal to Slick! The last two fields: *Number, and Title* may be used to enter the drawing number and a descriptive title. The information under the column DWG-Link relates to block attribute tag names. Drawing Links are discussed in the section on *Bidirectional Attribute exchange*.

Field Name	Type	Width	Decimal	DWG-Link
NAME	C	95	0	none
EXTENSION	C	15	0	none

PATH	C	127	0	none
ARCHIVED	C	1	0	none
NUMBER	C	21	0	none
TITLE	C	60	0	none

Name   - corresponds to the file name
Extension   - extension;
Path   - full path name;
Archived   - drive letter where the file is located;
Number - May be used to contain the drawing number;
This should be a unique field, that is, the user should not assign the same number to different drawings in the database file. Although Slick! allows duplicate numbers, this is not recommended! See Configure Database in Installation section.

Title   - May be used to contain a descriptive title for the drawing;

The user has the option of modifying the database structure to add up to thirty four (34) additional fields as needed.

You may attach a database record to any file on your harddisk. For example: Lotus or Quattro Pro spreadsheet files, WordPerfect documents, Presentation files, scanned files, and others.

Frequently asked database questions

Q. How do I copy the structure of an existing slickdb.dbf to another drive or directory without having to reenter all the field names?
A. Use the Slick! Copy command to copy an existing file to the target drive or directory and then delete the file afterwards. The copy command will automatically create slickdb.dbf in the target drive or directory with the same structure as the existing one.

Q. We have an existing dBASE DBF file already and would like to use Slick! to browse through the records. What do I do?
A. Modify the structure of your existing DBF file in dBASE as follows:
?? The first six fields must be those required by Slick! and in their proper order and definition;
?? The PATH, and NAME fields must have valid data.
?? The ARCHIVED field must contain the drive letter where the file

resides.

?? The file must be named SLICKDB.DBF and placed in the User Directory, SLICKDB.DIR directory or the directory set by SLICKDBF;

?? Memo fields are not supported;

?? The EXT, NUMBER, and TITLE fields may be blank.

Q. Does Slick! modify my AutoCAD drawing to add database information?

A. No. The database file slickdb.dbf is a separate file from the drawings files. The database file is a collection of records. Each record contains the path and extension of the drawing it is associated with.

Q. If I copy a drawing from one drive to another using DOS, will the database information be automatically copied to the database file in the target drive?

A. Absolutely not. You must use the Slick! copy command to copy files to other drives if you wish to copy the database information.

For answers to more database-related questions go to the "Frequently asked questions" chapter at the end of the manual.

Multiple Databases

Most users will only need one centralized database to contain information on all their files. The location of the database would be set in the User Directory you specify at configuration.

If necessary you can define multiple databases in Slick! but Slick! can access only one database at a time. Inform Slick! of the database to use by:

?? reconfiguring Slick! to use a different database by changing the User Directory or

?? setting the environment variable SLICKDBF to point to another directory before entering Windows

If User Directory is set, it overrides any setting of SLICKDBF.

For instance, the marketing department in your company might require different information fields from the engineering department. In this case, you may define a directory called *c:\market* for

marketing and *c:\engineer* for engineering. .

In the example below, you have three drawings in path *c:\dwgs* and two databases keeping track of these drawings. The database file *c:\market\slickdb.dbf* contains a record for columbia and a record for nozzle. The database file *c:\engineer\slickdb.dbf* contains a record for columbia, pump, and nozzle.

```
                              c: \dwgs\nozzle
                              c: \dwgs\pump
                              c: \dwgs\columbia


      c:\market\slickdb.dbf              c:\engineer\slickdb.dbf
      \dwgs\columbia.dwg                  \dwgs\columbia.dwg
      \dwgs\nozzle.dwg                    \dwgs\pump.dwg
                                          \dwgs\nozzle.dwg
```
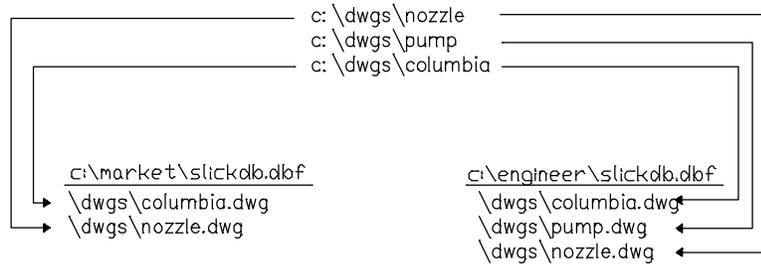
Multiple Databases Example

Database compatibility with older versions

Databases created with versions of Slick! v4.0 and older are not compatible with Slick! v8.0.

When you first use Slick! v8.0, it will automatically convert your database to the new format. See Installation chapter.

The old database files are: slickdb.dbf and slickdb3.cdx.
The new converted files are: slickdb4.dbf and slickdb4.cdx

If your company uses multiple copies of Slick! for Windows and access information from the same database, each user should upgrade to the newer version to maintain compatibility.

Since V8.0 maintains drive information, it is now ideal for you to maintain one central database for all your drives. See database configuration and usage of User Directory.

Database Modify Structure

Database ? DB Structure command

This section discusses how you can modify the default Slick! database structure to specify additional fields as needed.

Important Precautions

? Backup all your database files (.dbf) in slickdb.dir or your user directory before modifying the database structure as a precaution against the risk of losing valuable data!

? You should not change a field name and its width or type at the same time! If you do, Slick! will not be able to append data from the old field and your new field will be blank! First change the name, save the new structure, and then Edit the database structure again to change field width or type!

? You should not insert or delete fields from the database and change field names at the same time! Slick! appends data from the old file by using the field position in the file. Inserting or deleting fields as well as changing field names will cause loss of data! First change the name, save the new structure, and then Edit the database structure again to insert or delete fields!

Database Structure

Each time you enter database information for a file, a record gets added to the *slickdb.dbf* file. The record contains the minimum six fields that Slick! requires. You may define up to thirty four (34) fields in addition to these minimum fields. A field is defined by its field name, type, width, and the number of decimal positions if the type is numeric, and an *optional* drawing link (DWG-Link).

In general, Slick! maintains one database directory *slickdb.dir* per harddisk drive. Each directory contains a database file *slickdb.dbf*. Database files .dbf(s) may have different database structures. The Edit command modifies the database structure of the currently selected drive. If you have multiple drives, be aware that the changes being made affect only the database structure of the current drive!

If you have set the environment variable **SLICKDBF**, Slick! will modify the structure of the *slickdb.dbf* file residing in the directory specified by **SLICKDBF**.

Database Field Definition

Field Name

The field name may be up to 10 characters long, and may consist of letters, numbers, and the underscore character. The field name cannot contain embedded blank characters and the first character of the field name must be a letter.

Type

The valid field types are:

C   Character field; maximum width is 255.
N   Numeric field; maximum width is 17 including the decimal point.
L   Logical field; predefined width is 1; acceptable values are **T, F, Y, N**
D   Date field; predefined width is 8; only valid dates are acceptable. Slick! displays and accepts date fields in MM/DD/YY format. Internally however, Slick! stores date fields in YYYYMMDD format. This is of importance only to those who would be importing data into Slick! See Import/Export section.

Width

Field width. For numeric fields, width must account for the number of decimal places including the decimal point.

Decimal Places

Number of decimal places for numeric type fields.

DWG-Link (Drawing Link)

Optional item that you may specify if you wish to use the bidirectional attribute exchange feature of Slick! If used, it must contain either the tag name of a block attribute defined in your AutoCAD drawings or one of the supported AutoCAD variables. See section on Bidirectional Attribute Exchange.
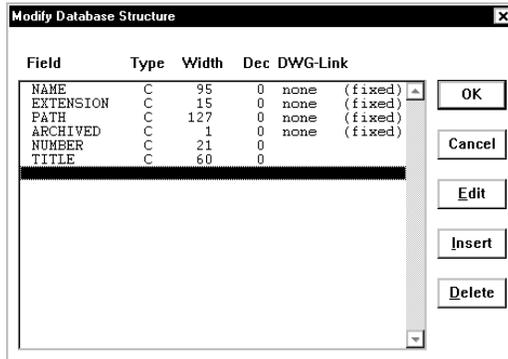
Edit

You must first pick the field to be edited (highlighted with a black horizontal bar), before picking the *Edit* menu. Slick! will then proceed to prompt you for Field Name, Type, Width, Decimal Places, and DWG-Link. Existing values will be shown as defaults. Select OK when finished.
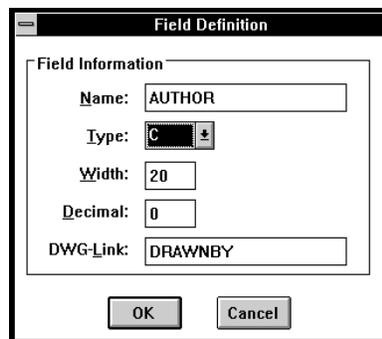
You may not change the name, type, width, and decimal positions of Slick!'s fixed default fields. You may however specify the optional DWG-Link to the NUMBER and/or TITLE fields.

Insert

First highlight a position in the structure screen before selecting the Insert command. Slick! will provide a space to insert the new field definition. To add a field definition to the end of the list, select a point after the last field.

Delete

Select a field name and then pick Delete to delete the field. Slick! prompts for confirmation. Select Y or N.

Save Changes and exit

Select OK when finished with your changes to the structure.

? Read Precautions at the beginning of this section before saving your changes!

Slick! will display:
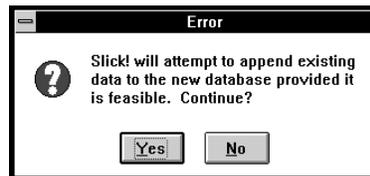
Select *Y* or *N*.

Database Utilities

This section discusses miscellaneous utility functions available from the Database menu.

Delete Record

Marks a record for deletion. The word *Deleted* will appear on the right corner of screen.   You may undelete previously deleted records as long as they have not been purged. See *Purge* command below. If the record being deleted has the same **NUMBER** as another record, Slick! displays:

Warning. Another record has the same NUMBER field. Write record anyway? <N> Enter *Y* to continue delete. Slick! displays: *Record deleted*.

Undelete Record

Undeletes a record previously marked for deletion. See *Delete Record* command above.

Purge

Permanently deletes records marked for deletion from the database. Slick! displays:
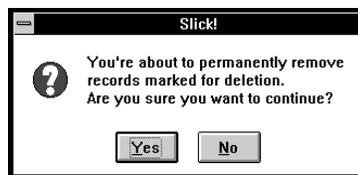
Record Count

Counts the number of records in the database. Slick! displays: *Number of records nnn* Press OK to continue.

Reindex

Reindexes the database. This command is only necessary if Slick!'s data base file has been modified **externally**. See section on *Database Import*. Slick! displays:

Database successfully reindexed.

Add Dummy Record

Adds a dummy record for non-existent records.

You can create a database record which has no association or link to any particular file. This is useful for storing information for non-electronic media such as paper drawings. Slick! stores these records with the false directory path of **"\DUMMY-DBF-RECORDS"**. In what would normally be a filename, Slick! automatically generates a sequential 8-character numeric name with extension of **.DMY**.

Enter information normally as with any other database record. The contents of these records will be displayed as well if you browse thru the database.

Browsing for dummy records

If you wish to browse through the dummy records only, you can build the following query condition:

```
PATH = '\DUMMY-DBF-RECORDS'
```

?   Note that the directory path should be in all capitalized letters!

Database Browse

Database ❓ Browse command

Use this command to browse thru the contents of your database. Upon entry into the browse screen, Slick! displays the database contents by field name from left to right.

The archive column indicates the letter of the drive containing the file. Scrolling and paging arrows are provided for controlling the screen display.

Icon	Description
◀	Shift screen one field to the left
▼	Scroll up one record
▼ (page)	Page up
▲	Scroll down one record
▲ (page)	Page down
▶	Shift screen one field to the right

❓ The information displayed on the screen is affected by both the *Query* and *Set Layout* commands.

You may do a query from within the browse command or from the database menu in the menu bar. The query command is discussed in detail in the next section. If a query table has been loaded or is being processed, only those records which meet the conditions will be

displayed. If no records qualify, the screen will be blank and **Record 0** will be indicated at the bottom of the screen.

If you have previously set or loaded a display layout, data will be displayed as defined in the layout. *See Database Query, Set Layout, Load Layout, Reset Layout*.

Layout menu

This pull down menu allows you to arrange the layout of information on the browse screen.

Set Layout

This command controls the manner in which database information is displayed on the screen and reported. See Database Reporting section. Normally, Slick! displays field information in the same order and width as defined in the database structure. With this command, the user has the option of changing the order in which fields are displayed, the display field width, and whether specific fields are to be visible or not. Slick! maintains current Layout settings in a temporary buffer area. The user may **save** (see Save Layout) the current settings to a disk file. The saved settings may then be **loaded** (see Load Layout) later as needed without the need for re-entering the settings.

Visibility

Select the desired field and pick the desired visibility option, ON or OFF. If visibility is set to OFF, the field will not be displayed on the browse screen or your reports.

Move

Use this command to move the position of the field to be displayed relative to other fields. Highlight the field to be moved by picking it and then pick Move from the dialogue box. When Slick! displays *Select the new field position*, pick the new position of the field. The other fields will be moved accordingly.

Width

Use this command to control the display field width. Highlight the desired field by picking it and then pick Width from the screen menu.

```
┌──────────────────────────────────┐
│ ━  Set Field Display Width        │
├──────────────────────────────────┤
│  Database field width      : 8    │
│  Minimum allowable width   : 5    │
│  Maximum allowable width   : 66   │
│                                   │
│  Enter new display width  [9  ]   │
│                                   │
│        [  OK  ]  [ Cancel ]       │
└──────────────────────────────────┘
```
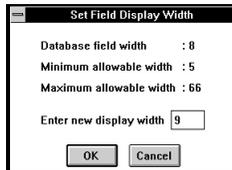
Enter the new display width and select OK when finished.

Reset Layout

Use this command to reset the display and report layout to default values. This means that all fields become visible, field positions are in the same order as they are defined in the database structure, and the display width of each field is the same as defined in the database structure. Slick! displays:

Layout successfully reset.   Pick any point to clear message.

Save Layout

Use this command to save the current layout to disk for subsequent loading. See Load Layout below. It overwrites any previously saved layout. Slick! **does not** support multiple layouts. It is suggested that the user save the most often used layout. Slick! displays: *Data successfully saved.* Pick any point to clear message.

Load Layout

Use this command to load the last saved layout. Slick! displays: *Layout successfully loaded.* Pick any point to clear message. The saved browse layout may be automatically loaded if you configured Slick! to do so. See Configure Database.

Position menu

This pull down menu allows you to quickly move to any record within the database.

Top Record

Goes to the first record in the database.

Bottom Record

Goes to the last record in the database.

Record Number

Prompts the user for a record number and goes to that record.

Skip

Prompts for a specified number of records to skip and goes to that record. Note: Positive number skips forward; negative number skips backward.

Utilities menu

This pull down menu allows you to delete and undelete database records and to set sort on or off.

Delete Record

Use this command to mark a record for deletion. Deleted records may be permanently removed from the database later with the *Purge* command from the main database menu. If the record being deleted has the same **NUMBER** as another record, Slick! displays: *Warning. Another record has the same NUMBER field. Write record anyway? <N>* Enter *Y* to continue delete. Slick! displays: *Record deleted.* Pick any point to clear message.

Undelete Record

Use this command to undelete a record previously marked for deletion. Slick! displays: *Record undeleted*. Pick any point to clear message.

Set sort on

This command sorts the database records on the currently highlighted field.

? Database reports will reflect the current sort order of database records. See the Database Reporting section.

Reset sort

This command resets the sort sequence by record number.

View

Use this command to view the selected file. If the file has previously been deleted, Slick! displays: *Unable to open <file name>*.

You can only view the drawing associated with the database record if the drawing exists in the currently drive!

Note: It is possible to have database records for drawings residing in drives different from the drive in which *slickdb.dbf* resides.

Exit

Exits the browse screen and returns to the main display.

Database Query

Database ? Query command

Query allows you to build query conditions against the database. This is useful if you wish to see information only on files that meet certain conditions. For example, all drawings belonging to a specific project. Query conditions affect both the display and reporting of data. See *Browse*, and *Reporting* sections.

You may invoke the Query command from the Database menu or from the Database ? Browse menu.

Upon entry, Slick! displays the Query screen. Initially, it will be empty. The following shows a sample query screen in which condition statements have been entered.

Sample Query Screen

Database Query

Exit Fields Functions Operators Query

Status	Condition
☐	rev_date=ctod("01/04/2097")
☑	dtoc(rev_date)="04/05/1997"
☐	substr(dtoc(rev_date),7,2)="19"
☐	substr(dtoc(rev_date),9,2)="01"
☐	title="Office Bldg"
☐	upper(drawnby)="Smith"
☑	deleted()
☐	price >= 10.00 .and. price <= 20.00
☐	"Mall" $ title
☐	substr(dtoc(rev_date),7,4)="1997"

You may use the *Fields, Functions, and Operators* pull-down menus to assist you in building a set of conditions which will subsequently be tested by Slick! Initially, Slick! displays ten blank query lines. The entire set is hereinafter called the *Query Table*.

Condition Status

You may set the status of a condition ON or OFF by clicking on the small box to the left of the condition box. The condition status is ON if the box contains an **X**. The status of each condition line is initially set to OFF.

```
                              Database Query
Exit  Fields  Functions  Operators  Query

Status                                 Condition
  ⊠  |
  ☐
```

Condition status is ON if box is marked by an **X**. Condition statements in the query table are held by Slick! in a temporary buffer area. The user has the option of saving the query table to a disk file. The saved query table may then be loaded later as needed without the need for you to re-enter the condition statements.

Syntax Checking

? ? Slick! validates the query conditions entered by the user for syntax errors and data type inconsistencies. If Slick! detects an error, an appropriate error message will be displayed. If you cannot correct the error and simply wish to exit, clear the condition line containing the error and exit normally. Pressing escape will not work!

Building condition statements

To enter a query condition, simply pick the desired condition box and start typing the condition statement.

You may set the status ON or OFF at any time. If the condition is OFF, Slick does not test the condition. You may turn any or all conditions ON or OFF when browsing or reporting data from the data base.

? If a query is being processed, Slick! will only display those records which meet all the conditions that are turned ON!

You may use the **Fields, Functions, and Operators** menus to assist you in building the condition.

Note: These menus are available only if you have selected a condition box. Otherwise, they are dimmed.

Fields menu

This command displays a list of field names as defined in the database structure. Double-click on the desired field and the field name will be inserted automatically in the current condition box. Press the space bar to provide a space between the field names and operators.

Operators menu

This command displays a list of operators. Operators are symbols which link fields, constants, and functions so that Slick! can evaluate the expression or condition as one unit. Double-click on the desired operator and the operator will automatically be inserted on the condition line.

Slick! provides four types of operators: mathematical, relational, logical, and string.

Mathematical Operators

Mathematical operators generate numeric results.

+	Addition/Unary Positive
-	Subtraction/Unary Negative
*	Multiplication
/	Division
**	Exponentiation
()	Parentheses for grouping

Relational Operators

Relational operators generate logical results, that is (.T.) or (.F.). You can use relational operators with character, numeric, or date expressions. Both expressions you use in a relational operation must be of the same type.

<	Less than
>	Greater than
=	Equal to
<> or #	Not equal to
<=	Less than or equal to
>=	Greater than or equal to
$	Contain or substring comparison.

Contain ($) operator

This operator is a powerful one and is explained further. You can use this operator to test if one string is identical to or contained within a second string. That is, if A and B are both character strings, A$B returns a logical true if A is either identical to B or is contained within B.

For example, if you are searching for all files with the word "defense" in the TITLE field, the condition line should read:
```
"defense" $ TITLE
```

Logical Operators

Logical operators obtain a logical result from comparing two expressions.

.AND.	Logical and
.OR.	Logical or
.NOT.	Logical not
()	Parentheses for grouping
=	Equal to
<> or #	Not equal to

String Operators

String operators concatenate two or more character strings into a single character string.

+	Trailing spaces between the strings are left intact when the strings are joined
-	Trailing spaces of the string preceding the operator are moved to the end of the last string
()	Parentheses for grouping

For example, if string A contains *"ABC   "* and string B contains *"DEF"*:
the expression   A + B results in *"ABC   DEF"*
while   A - B results in *"ABCDEF   "*

Precedence of Operators

Operators have a precedence which specifies operator evaluation order. The precedence of each operator is specified in the following tables. The higher the precedence, the earlier the operation will be performed. Divide has a precedence of 6 and Plus has a precedence of 5 which means Divide is evaluated before Plus. Consequently 1 +

4 / 2 returns the value 3. Evaluation order can be made explicit by using parentheses. For example, $1 + 2 * 3$ returns 7 whereas $(1 + 2)$ $* 3$ returns 9.

In general, when several of the four types of operators are used in the same expression, the precedence levels are:
·   mathematical or string (highest precedence)
·   relational
·   logical (lowest precedence)
All operations at the same precedence level are performed in order from left to right. Use parentheses to override the order in which operations are performed. Operations within the inner-nested parentheses are performed first.

	Operator	**Description**	**Precedence**
Logical Operators	.NOT.	Logical not	1
	.OR.	Logical or	2
	.AND.	Logical and	3
Relational Operators	=	Equal to	4
	<>	Not equal to	4
	<	Less than	4
	>	Greater than	4
	<=	Less than or equal to	4
	>=	Greater than or equal to	4
	$	Contain	4
Math Operators	+	Add	5
	-	Subtract	5
	*	Multiply	6
	/	Divide	6
	**	Exponentiation	7

Functions menu

This command displays a list of functions available for data conversion. Double-click on the desired function and the function will automatically be inserted in the condition box.

A function can be used as an expression or as part of an expression. Like operators, constants, and fields, functions return a value. Functions are always followed by left and right parenthesis. Values

(parameters) may be included inside the parentheses. Values for character strings must be enclosed in quotes.

When you defined the structure of your database, you specified the field type for each field. The field type may be character, numeric, logical, or date.

Field types must match

Before you can compare the contents of two fields, they must be of the same type. If they are different, you must you a function to convert the field type of one to that of the other!

Comparing Numeric fields to Character fields

You must use either:
- the VAL() function to convert the character string to a numeric value before comparing it with the numeric field, or
- the STR() function to convert the numeric value to a character string before comparing it with the character field.

Comparing Date fields to Character fields

All date fields now have a width of 10 to accommodate the new century.
The format is MM/DD/CCYY where CC is the century.
You must use either:
- the CTOD() function to convert the character string to a date value before comparing it with the date field, or
- the DTOC() function to convert the date field to a character string before comparing it with the character field.

Functions Defined

CTOD()

Character String to Date Variable Conversion

Syntax: *CTOD("MM/DD/CCYY")*
 Usage: To convert a character string to a date type variable and to compare the result to a date field in the data base.
Example: You have defined a date type variable called REV_DATE in the Slick! database and you wish to test if it contains the date February 26, 1989. Your query condition line should then read:
`REV_DATE = CTOD("02/26/89")`

DTOC()

Date Variable to Character String Conversion

Syntax: *DTOC(Date_Value)*
Usage: This is the opposite of the CTOD function above. It converts a date variable to a character string in the form "MM/DD/CCYY" so that you can compare it to another character string or character field. The parameter Date_Value must be defined as a date variable field type in the database.
Example: You have defined a date type variable called REV_DATE in the Slick! database and you wish to test if it contains the date February 26, 1989. Your query condition line should then read:
`DTOC(REV_DATE) = "02/26/1989"`

DELETED()

Function to test if current record is marked for deletion. Note: If you have just previously purged the database of records marked for deletion, no records will qualify for this test! See the Purge command in Database Utilities.

Syntax: *DELETED()*
Usage: This function may be used as a query condition to browse for database records that have been marked for deletion. Conversely, it can be used to browse for records that have *not* been marked for deletion.

Example: The query condition line may simply contain:
`DELETED()`   to test for deleted records or
`.NOT. DELETED()`   to test for not deleted records

IIF()

This function stands for an immediate IF and is a shortcut to the IF...ENDIF programming construct.
Syntax: IIF(<condition>, <expression 1>, <expression 2>)
Usage: If the logical expression specified by <condition> is true, the function returns the result of the first expression; otherwise, it returns the result of the second expression.
Example: In the following example, your database contains a field called LAST_NAME and you will be creating a new character string called NAME depending on the contents of field SEX:
`NAME =IIF(SEX="F", "MS. ", "MR. ") +`
`LAST_NAME`

RECNO()

Returns the record number of the current record.

Syntax: *RECNO()*
Usage: Displays only those records whose record numbers are within a specified range.
Example: If you wish to display only those records whose record numbers are 10 thru 20, you will build the following query condition line:
`RECNO( ) > 9 .AND. RECNO( ) < 21`

STR()

Converts a number into a character string.
Syntax: *STR(Number, Length, Decimals)*
Usage: The string function converts the value of a numeric field into a character value. *Length* is the number of characters in the new string, including the decimal point. *Decimals* is the number of decimal places desired. If the number is too big for the alloted space, asterisks (*'s) will be filled in instead.
Example: Assuming *COST* is a numeric field containing the value 25: `STR(COST,5,2)` returns the character string `"25.00"`. `STR(COST,4,2)` returns "****" since not enough space is alloted for the new string.

SUBSTR()

Returns a specified number of characters from a character expression.

Syntax: *SUBSTR(Character Expr., Starting Position, Number of Characters)*
Usage: *SUBSTR* is useful in extracting embedded characters from a character string.
Example: The following condition will display only those drawings with the letters "XYZ" starting in position five of the TITLE field.
`SUBSTR(TITLE,5,3) = "XYZ"`

UPPER()

Converts a character string to uppercase letters.

Syntax: *UPPER(Char_Value)*
Usage: Converts information in a character field to uppercase letters. This function is useful when you wish to search for a specific string value in a field but are not sure if the field contents were entered in lower or uppercase letters.
Example: You want to set a query condition to find all the drawings created by a draftsperson named Robert in database field AUTHOR. Since the name might have been entered as "Robert", "ROBERT" or a mixture of lowercase and uppercase letters, the query line should

read as follows:
```
UPPER(AUTHOR) = "ROBERT"
```

VAL()

Converts a character string to a numeric value.

Syntax: *VAL(Char_Value)*
Usage: A character field in the database needs to be converted to a numeric value for comparison purposes.
Example: You have a field called COST in your database which was defined as a character field type and you wish to query for all records whose cost is equal to 150.00. The query line should read as follows:
```
VAL(COST)= 150.00
```

Query menu

Do Query

This command will process any query condition that is turned on and exit to the main menu. As opposed to the browse command above which enters browse mode immediately, this command allows you the option of picking Report from the Database menu to generate reports. You may of course still enter browse mode from the main menu.

Reset Query

This resets all query conditions to none. That is all database records will be available for viewing. After execution, Slick! will display the message:
Query reset successful.

Save Query

This saves all the query conditions in the current query table to a file. The user may subsequently load this table repeatedly for query purposes. If a query table has previously been saved, Slick! will prompt: *Overwrite previously saved information?* Respond with *Y* to save the new query table.

Load Query

This loads the query table previously saved by Save Query. The condition statements therein will now be in effect. Slick! will display the message:
Query successfully loaded.

The query conditions can be automatically loaded if you have configured Slick! to do so. See Configure Database.

Exit menu

Select to exit query. You will return either to the main screen or to the Browse menu depending on where you entered Query.

Any changes you have made to the query conditions *will not* be placed into effect. However, changes made to the query table are kept in the buffer area. The previous query conditions are still in effect.

Query Example

The following example illustrates a simple query application.   Let us assume that you wish to locate all files whose TITLE field contains the characters ASSY.

·	Modify the contents of the TITLE field for two or three sample files to ASSY1, ASSY2, ASSY3, etc.
·	Pick Database ? Query from the menu bar.
·	The query screen will appear with ten blank condition statement lines.
·	The status of all the lines are initially *OFF*.
·	Select the first condition box.
·	Pick *Fields* from the menu bar to display a list of field names.
·	Double-click on TITLE from the field list.
·	TITLE will appear on the condition line.
·	Press the space bar to enter a space.
·	Pick *Operators* from the menu bar to display a list of operators.
·	Double-click on = from the list.
·	Press the space bar to enter a space.
·	Type ASSY in the condition box.
·	The condition line should now show:
	TITLE = "ASSY"
·	Pick on the status box beside this condition line to set status ON.
·	Pick *Exit* from the menu bar.
·	Pick *Do Query* from the submenu.
·	Slick! returns to the main menu.
·	Pick *Browse* from the Database menu.
Notice now that only those drawings whose TITLE begins with *ASSY* are shown on the screen!

Query Conditions Notes

The *Fields* and *Operators* and *Functions* menus are simply tools to assist you in building the condition line. It is not necessary to use them. You can simply type the complete condition statement using the keyboard.

Case Sensitivity

All condition statements are case sensitive. Uppercase strings compared with lowercase strings will not return true. For example, *"PROJECT" = "Project"* will return false.

String comparisons

Comparisons between character strings begin with the left character in each string and continue character by character to the end of the string to the <u>right</u> of the relational operator. If the two strings are the same up to that point, the result of the comparison is true. For example, if you are comparing string **A** to string **B**, make sure that the number of characters in string **A** is equal or greater than string **B**. Otherwise, you will never get a valid result! *? Exception is the contain function (see discussion below).*

$ Contain substring comparison

This is a powerful function to test if a field contains a character string. **The string must be to the left of the $ operator.** For example, if you wish to test if the field **TITLE** contains the word **"test"**, use the following statement: **"test" $ TITLE**

Date Comparisons

Fields defined in the database as date fields may be directly compared to each other. To compare a character string to a date field, either the date field has to be converted to a string or the string has to be converted to a date field. For example, the following statements are identical in function:
REV_DATE = CTOD("01/15/1991")
DTOC(REV_DATE) = "01/1519/91"

Numeric Comparisons

To compare a numeric field against a character string, the numeric field must first be converted to a string using the string function. Make sure that the number of characters in the converted string equals the number of characters in the compare string. See STR function above. For example: *"25.50" = STR(COST,5,2)* returns true if cost contains the value *25.50*.

Sample Query Statements

Condition: **TITLE = "ASSY"**
Purpose: Find all files whose title begins with ASSY. Note that fields defined as strings must be enclosed in quotation marks.

Condition: **"BLDG C" $ TITLE**
Purpose: Find all files whose title contains the text BLDG C.

Condition: **DTOC(REV_DATE) = "03/01/1992"**
Purpose: Find all files whose revision date is March 1, 1992. Note that you have to convert a date field to a character string first before you can compare it to another string.

Condition: **SUBSTR(DTOC(REV_DATE),9,2) = "92"**
Purpose: Find all files whose revision year is 1992. In this example, you first convert the date to a character string, extract the year by using the substring function, and compare it to another string containing the desired year.

Condition: **SUBSTR(DTOC(REV_DATE),1,2) = "12"**
Purpose: Find all files whose revision month is December. Same as above except your are extracting the month portion of the date string.

Condition: **UPPER(DRAWNBY) = "SMITH"**
Purpose: Find all the drawings drawn by draftsperson SMITH. Since the person's name may have been entered in both uppercase and lowercase, it is best to convert the field contents to uppercase letters first before testing.

Condition: **DELETED()**
Purpose: Find all the files which have previously been marked for deletion.

Condition: **PRICE >= 10.00 .AND. PRICE <= 20.00**
Purpose: Find all the products with prices between ten and twenty dollars.

Condition: **REVISION .NOT. OLD**
Purpose: Test if revision is not old where revision is defined as a logical field.

Database Reporting

Database ❓ Report command

Use this command to report on the contents of your database.

Upon entry, Slick! displays the Report Control Screen shown below. You may change the report settings by picking the entry and entering changes in the input box.
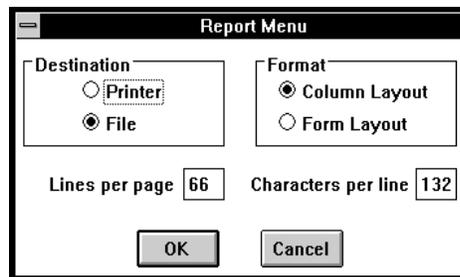
Destination

You may direct your report output to the printer or to a file by selecting the destination options. You may also choose between column or form layout.

Printer

When selected, your report goes directly to the printer. Make sure the printer is in ready mode before printing. Select OK to begin printing.

File

When selected, your report goes to a disk output file. Slick! will prompt for an output file name. Select OK to create the report file.

Format

Column Layout

If selected, the report will list fields horizontally in column fashion. Make sure that the number of characters per line set below is enough to hold all the fields being reported. Hit any key to return to the Report Menu.

Form Layout

If selected, the report will list all the fields vertically. Hit any key to return to the Report Menu.

Lines Per Page

Default is 66. Enter lines per page. Hit any key to return to Report menu.

Characters Per Line

Default is 132. Enter characters per line. Hit any key to return to Report Menu. **Note:** If set to a value greater than print width of your printer, report will be truncated to the right! Hit any key to return to Report menu.

Report Considerations

? If a query condition is loaded or is being processed, only those records which meet the condition will be reported. See section on *Database Query*.

? If a *Layout* has been set or loaded, this affects the way data is reported. See *Set Layout, Load Layout* in the *Database Browse* section.

? If the contents have been sorted on a field, the report will be sorted likewise. See *Database **?** Browse **?** Utilities **?** Sort on...*

Database Import/Export

Overview

This section discusses how you can import and export database files into and from Slick!'s database. These commands are available from the Database menu. If you are using dBase IV, please read the following discussion first.

dBase IV File Compatibility

Slick!s .DBF files may be read directly by dBase IV. If changes are made to Slick!'s database using dBase IV, you must first *reindex* the file before using the database. See *Reindex* command in the *Utilities* section.

? User may define a database structure in dBase IV identical to Slick!'s structure. User need only to rename the database to SLICKDB.DBF, and reindex the file to be useable by Slick!

Import Database

Database ? Import Database

Slick! allows the user to import comma delimited files from other database software packages. Make sure that the number of fields in the input file correspond to Slick!'s database structure. Consistency must be maintained with regards to field type, width, and decimal places. Slick! will prompt:

Enter input file name:
Respond with a file name including path and file extension. Select OK when finished. Slick! will append the information to SLICKDB.DBF. Slick! displays:
Import complete; nnn records imported;

? Slick! provides a mechanism for importing attribute data directly from AutoCAD blocks thru the *Import DWG-Link* command. See the section on *Import/Export Drawing Links*.

AutoCAD Attribute Extraction Option

? If you do not wish to use this feature, you may create a comma delimited file (CDF) by using AutoCAD's attribute extraction command *ATTREXTR*. Modify the file to match Slick!'s database structure exactly and then import into Slick!'s database using the *Import Database* command.

Comma Delimited File Example

Let us assume that your structure contains the following fields:

DRAWING NAME, EXTENSION, PATH, ARCHIVE (DRIVE LETTER), NUMBER, TITLE, AND REVISION DATE.

The CDF file you create must contain exactly seven fields separated by a commas. For example,

```
COLUMBIA, DWG, \ACAD\SAMPLE, D, 10, Shuttle, 199304
15
NOZZLE, DWG, \ACAD\DWGS, C, 20, Fire
Nozzle, 19930420
```

?? Note that the ARCHIVED field contains the drive letter. In this example columbia.dwg is in drive D while the nozzle.dwg is in drive C.
?? Note that the date is entered in YYYYMMDD format. This is the internal representation of date fields in Slick!
?? Note that the path field does not contain any drive specification.
?? Note that the key fields NAME, EXTENSION, PATH, and ARCHIVED are all in uppercase letters.

TIP: To see the format of an actual CDF file that you can use as a pattern for importing data into your database, use the export command described below to create one! Then view it with a text editor.

Slick! uses a file's path, name, and extension for its index. This is how a database record is associated with a given drawing. If the path information is incorrect, Slick! will not relate the database information to the drawing.

For example: A drawing with the complete name of *D:\MECH\PART1.DWG* should have the following values for the

path, name, and extension fields in Slick!:
PATH: \MECH
NAME: PART1
EXTENSION: DWG
ARCHIVED: D

Export Database

Database ? Export Database

You may export information from the Slick! database as a comma delimited file by using this command. You may then pass this file on to other software packages that accept this file format. Slick! will prompt: *Enter output file name:* Respond with an output file name including path and file extension. Select OK when finished.

Slick! will create a file with information contained in SLICKDB.DBF. Slick! displays: *Export complete.*

?? If a display layout is in effect, only fields that are visible will be exported!
?? If a query is in effect, only matching records will be exported!
?? If a sort order is in effect, exported records will be sorted. See *Database ? Browse ? Utilities ? Set sort on...*

Bidirectional Attribute Exchange

This feature allows you to:
· transfer information from the Slick! database to AutoCAD block attributes using the *Export DWG-Link* command from the Database menu
· transfer information from AutoCAD block attributes and/or AutoCAD system variables to the Slick! database using the *Import DWG-Link* command from the Database menu

AutoCAD Block Attributes

AutoCAD block attributes always contain a *tag* and a *value*. You may link an attribute tag with a database field via the optional *DWG-Link* parameter for that field. The drawing link may be specified by modifying the structure of the database. See *Database ? DB Structure*.

Drawing Link Example

Let us assume that your drawing title block has the following attributes assigned to it for the Columbia sample drawing:

Tag Name	Value
DWGNO	1000
TITLE	Columbia Space Shuttle
DRAWNBY	John Doe

Let us also assume that your database structure contains the following:

Field Name	Contents
NUMBER	empty
TITLE	empty
AUTHOR	empty
.....	

Lastly, you want Slick! to copy the values contained in your title block to the corresponding fields in the database without entering the data manually. The first step is to assign a drawing link to the

database fields using the *DB Structure* command. You would assign them as follows:

Field Name	Drawing Link
NUMBER	DWGNO
TITLE	TITLE
AUTHOR	DRAWNBY

The modify structure screen should look like the figure below:
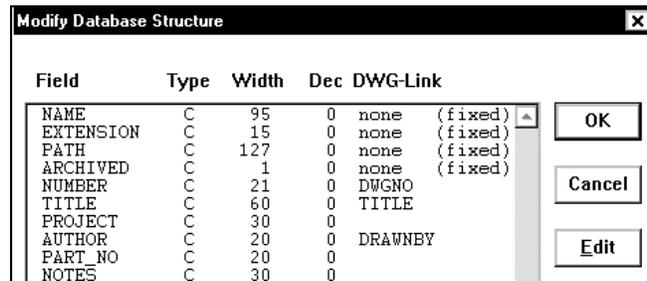
Select the drawing COLUMBIA from the files window. Initially, the database window will be empty since there is no field data. Now, pick *Database ? Import DWG-Link* from the menus. Note now that Slick! will read the attribute values from the drawing and place them in their respective fields.   See figure below.
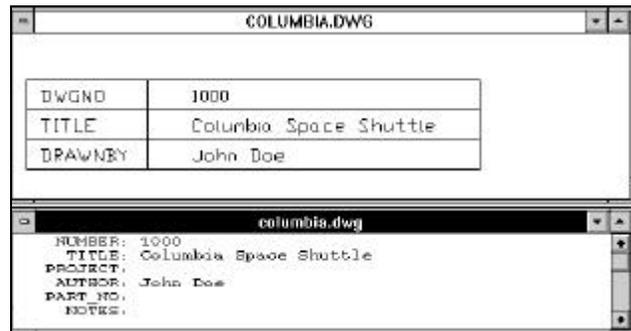
?   The database drawing link corresponds to the attribute tag name.
?   The database field contents corresponds to the attribute values.

The following chart further clarifies the relationship between attribute blocks and the database:

```
┌─────────────────────────────┬─────────────────────────────┐
│      Slick! Database        │      Block Attributes       │
├──────────┬──────────────────┼─────────────────────────────┤
│ Field    │ NUMBER           │                             │
│ Contents │ 1000          ◄─►│ 1000              value     │
│ DWG Link │ DWGNO         ◄─►│ DWGNO             tag name  │
│          │                  │                             │
│ Field    │ TITLE            │                             │
│ Contents │ Columbia Space Shuttle ◄─► Columbia Space Shuttle value │
│ DWG Link │ TITLE         ◄─►│ TITLE             tag name  │
│          │                  │                             │
│ Field    │ AUTHOR           │                             │
│ Contents │ John Doe      ◄─►│ John Doe          value     │
│ DWG Link │ DRAWNBY       ◄─►│ DRAWNBY           tag name  │
└──────────┴──────────────────┴─────────────────────────────┘
```

Relationship between Slick! Database and AutoCAD Blocks

Import DWG-Link

Use this command to import attribute information from AutoCAD blocks. See example above. Normally, this command is useful to extract information from a block definition which occurs only *once* in a drawing, such as title blocks.

This command is automatically executed if you have configured Slick! to do so and you have selected a drawing for viewing. See Configure Database.

Slick! reads the AutoCAD drawing file searching for attribute tags with a matching DWG-Link in the database structure. If there are multiple blocks with the same tag name in the drawing, Slick! uses the last attribute value read and places this in the field contents of the database!
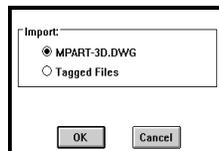
Drawing links may be imported for the current file or for previously tagged files. See *Tools ? Tag* in File Utilities section.

Special drawing links

Slick! provides special drawing links for importing the contents of three AutoCAD system variables:

DWG-Link	ACAD Variable	Description
$$TDCREATE	*TDCREATE*	Date of drawing creation.

$$TDINDWG	*TDINDWG*		Total editing time minutes
$$TDUPDATE	*TDUPDATE*		Date of last update.

If you wish to use any of these drawing links, you must provide field definitions in the database structure to accommodate them. You may specify your own field names but the field type and width must be defined as follows:

Field Name	Type	Width	Decimals	DWG-Link
CREATE_DTE	D	8	0	$$TDCREATE
EDIT_TIME	N	6	0	$$TDINDWG
LAST_UPDTE	D	8	0	$$TDUPDATE

Export DWG-Link

Use this command to export database information to a defined AutoCAD block. By definition, only one database record can exist for a drawing. Therefore, this command is useful to extract information from the drawing database to a block definition which occurs only *once* in a drawing, such as title blocks.

This command creates a script file with the *.SCR* extension in the directory where the the current drawing resides. For example, *D:\ACAD\DWGS\COLUMBIA.SCR*. The script file contains the necessary attribute edit instructions to change the attribute values of linked attribute tags.

To complete the export, you must open the drawing in AutoCAD and run the script command using the script file created by Slick!.

If there are multiple insertions in the drawing of the same tag name, the script file will modify the attribute value of **all occurences** of that tag name encountered!

? **The special drawing links *$$TDCREATE, $$TDINDWG, $$TDUPDATE* may not be exported!**

No matching attribute tags

If Slick! cannot locate matching attribute tags in the drawing, it displays:

Annotate / Redlining

During the design review process in working with engineering or architectural drawings, it is often useful to have the ability to look at a drawing and mark it up with comments or changes. With Slick!'s redlining feature, you may:

- retrieve a drawing to be redlined;
- select any of Slick!'s pre-defined redline layers to enter redline information;
- draw true geometric entities such as lines, arcs, circles, boxes to denote drawings changes;
- place textual information on the drawing for comments;
- save the redline information into a redline file (.RDL extension)
- send the redline file to the AutoCAD draftsperson to be used as reference for necessary drawing modifications.

? **Redlining works only on plan view. It does not work in 3D!**

The draftsperson can then retrieve the redline file into the AutoCAD drawing via a special LISP routine *REDLINE.LSP* provided by Slick!. By using the redline information as a reference, the draftsperson can then make the actual drawing changes as required. Slick! will **never** modify an AutoCAD drawing directly. It however provides a powerful redlining tool for helping automate the design review process.

Redlining Commands

After retrieving a drawing to be redlined, select Redline from the Slick! menu bar or pick from one of the icons in the tool bar.

Some redline commands requiring user input will display prompts at the **bottom** of the Slick! screen at the space normally containing the current directory. The following example shows Slick! prompting for a point while in the LINE command.
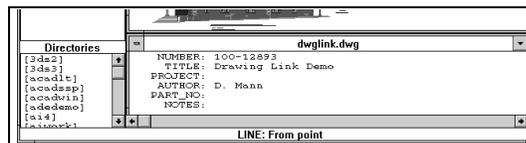
The user can continue to zoom and pan to move around the drawing while redlining. See chapter on Viewing.

Some redline commands perform editing on previously entered redline information. These include Change Text, Copy, Erase, Move, and Undo. These editing commands affect redline information only. They **do not** make any changes directly to the AutoCAD drawing (.dwg) file.

Redlining Steps

Redlining in general involves the following steps:
· retrieve the file to be redlined so that it shows on the graphics screen
· zoom in to the area to be redlined
· select the current redline layer to use via the RDL Layers command
· set the desired text height using the Text Height command
· set the desired arrow size using the Arrow Size command
· proceed to markup the file using redline entities such as lines, arcs, circles, and text
· save the redline information by using the Save Redline command

If you wish to continue redlining at a later time, you can simply retrieve the same file and load the saved redline information by using the Load Redline command.

Object Selection

The redlining commands Copy, Erase, and Move require you to select existing redline information by picking them with the left mouse button. To end the selection process, click on the right mouse button.

RDL Layers

The redline layer table is displayed showing the different layers that you may use to contain redline information. Slick! provides seven pre-defined layers with a color associated with each. Activate the desired current layer.
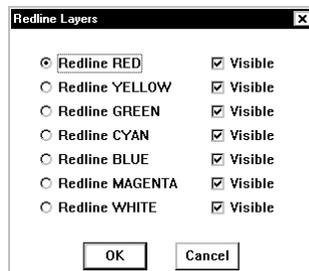
You can control the visibility of any of the layers by selecting or deselecting the Visible button. A check mark besides the button

indicates that the contents of this redline layer will be displayed.

Text Height

The default text height is 0.2 drawing units. To change, click on two points on the graphics screen to enter a text height base point and a second point.

Line

Slick! prompts for the starting point and subsequent to points. Pick the desired points by dragging the mouse. A rubber-banded line is displayed as each to point is selected. When finished, press ? or click on the right-mouse button.

Arc

Three points are required to draw an arc. Slick! prompts for the start point, second point and end point. A rubber-banded arc will be displayed after the second point is picked.

Box

Slick! prompts for two points defining the corners of the box. Pick the first corner and drag the mouse to pick the other corner.

Circle

Pick the center point and drag the mouse to pick the desired radius.

Text

Before issuing this text command, it is recommended that you set the text height first. See the **Text Height** command above. Slick! will prompt you for the text starting point. After picking the point, a dialog box for entering text appears. You can enter multiple lines of text by terminating each line with the ENTER key.

Leader

A leader entity is composed of an arrow pointer and one or more lines of text. You must pick the two points to define the arrow pointer. After selecting the second point, a dialog box for entering text will come up. As with the text command, you can type multiple lines.

? It is recommended that you first set the text height prior to using this command to correspond to the scale of the drawing being redlined. Slick! automatically determines the arrow size based on the

current redline text height.
? A leader going right to left will have its text right justified.

Change Text

This command allows you to change previously entered text. You **cannnot** use this command to change text in the actual AutoCAD drawing. Pick the text to be changed and enter the new text as in the Text command above. If Slick! cannot find the text to be changed, it simply goes back to Command: level.

Erase

Pick the objects to be erased. Selected objects will be dotted. Press the right-mouse button when finished.

Move

With this powerful command, you can move redline entities to a different location in the redline layer. It is particularly useful in redlining dense drawings where you have to clearly specify the drawing entities that are affected by the changes.

Pick Move command from redline menu;
MOVE: Select objects displays at the bottom of the screen
Select objects with the mouse. Selected objects will be dotted
Click on right mouse button when finished with selection
Respond to **the DRAG: From Point** and **DRAG: To Point** prompts at the bottom of the screen.

Copy

The copy command is identical to the move command except that objects selected are not erased. Objects may be copied as many times as necessary by choosing multiple "To points". To terminate, click on the right mouse button.

Undo

The undo command lets you cancel the previous command.

ID Point

Pick any point on the drawing and the x,y,z coordinates of the point are displayed. For example, if you want to know the x,y,z coordinate of the endpoint of an existing line, pick a point at the end of the desired line.

Distance

This command prompts for two points and displays the distance between the two points. It also displays the delta values for x and y.
Note: $Dx = x_2 - x_1$; $Dy = y_2 - y_1$

Reset

This command clears the screen of all redline information that has been entered. Use this command to start fresh. Slick! prompts: *Remove all redline information?* Respond with *Y* or *N*.

Save Redline

This command saves all the redline information to a redline file. Slick! displays the default file name which contains the path, the drawing name and the .RDL extension. For example: *C:\ACAD\COLUMBIA.RDL*.

? You may modify the default file name by using the keyboard keys to type a new filename.

? It is highly recommended that you always save your work to a redline file. If you are working in a single graphics window and retrieved another drawing for viewing, all the redline information entered for the previous drawing will no longer be available!

Load Redline

This command loads a previously saved .RDL file while working inside Slick!. Use this command to continue working on the redline file for the drawing being reviewed.
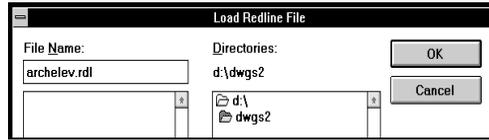
This command is automatically executed if you have configured Slick! to do so. See Configuration section.

? **Do not confuse this command with the special LISP routine REDLINE.LSP which is used to retrieve information contained in the .RDL while working inside AutoCAD.**

Using the .RDL redline file with AutoCAD

You may retrieve the redline file (previously saved by the person doing the redlining) by using the lisp routine *REDLINE.LSP* provided by Slick!. To facilitate loading the routine, copy the file *REDLINE.LSP* from the Slick! directory into your AutoCAD support directory.

?? Enter AutoCAD normally;
?? Edit the drawing which has the associated redline file, for example *COLUMBIA.RDL*;
?? At AutoCAD command level, type
?? Command: (load "REDLINE") to load Slick!'s LISP routine;
Command: REDLINE   to read the redline file;
?? AutoCAD will show a default redline file name which is the drawing name with the .RDL extension. For example, *COLUMBIA.RDL*.
?? If you wish to use the default, simply hit return. Otherwise, enter on the keyboard the complete file name you wish to use including drive and path *without the .RDL extension.*
After these steps, AutoCAD should have created additional layers corresponding to the redline layer names with all the redline information. You may now:
?? use this information as reference material to effect actual drawing changes.
?? remove the redline layers if they are no longer needed;
?? save the drawing with the new redline layers using either the original drawing name or another name; please refer to your AutoCAD manual regarding the *SAVE* command.

? Saving the drawing with the redline layers from Slick! will effectively include these layers as part of the drawing creating a larger drawing file. If you no longer require the redline layers, you should delete the objects they contain and **Purge** them from the drawing to converve on disk space. Please refer to your AutoCAD manual regarding the Purge Command.

? *The effect of running REDLINE is cumulative. If a drawing already contains redline information from a previous AutoCAD session and you execute the REDLINE command again, redline data from the .RDL file will be added to the existing redline layers.*

AutoCAD Text Height and Redline Text

When you read redline information containing text, AutoCAD will use its current text style and height to place the redline text into the drawing. The redline text height specified by the person doing the redline (see *Text Height* command) will be used by AutoCAD *only* if the text height of the current AutoCAD style is *variable*.

If the current AutoCAD style has a *fixed* height, redline text will drawn by AutoCAD using the fixed height. This fixed height may not be the same height as the height originally set by Slick! A warning message will be displayed:

Warning! The current text style has a fixed height. All redline text will therefore have a fixed height! Press ctrl-c to cancel or any key to continue."

? If this message appears, you should:
?? cancel the *redline* command;
?? set AutoCAD to a text style using variable height;
?? type the *redline* command again;

Dynamic Data Exchange (DDE)

Dynamic Data Exchange or DDE is a Windows feature that allows Windows applications to communicate with each other. DDE is based on the messaging system built into Windows. Two Windows programs can carry on a DDE "conversation" by posting messages to each other. These two programs are known as the "server" and the "client". A DDE server is the program that has access to data that may be useful to other Windows programs. A DDE client is the program that obtains this data from the server.

Slick! for Windows as DDE Server

Slick! can function as a DDE server. It must be active before the client application can initiate a conversation with it. If it is not active, most client applications have an "application execute" command that can be used to run Slick! For example, if you are using WordPerfect 6.0 for Windows, you can issue the following command to run Slick!.

APPEXECUTE("c:\slickwin\slickwin")

Normally, the client application need to use only three types of DDE commands to converse with Slick!. These are:

INITIATE   to initiate the DDE conversation
EXECUTE   to send commands to Slick!
TERMINATE   to terminate the conversation

Note: Applications may differ in the naming of the above commands but the usage is the same. For example, WordPerfect for Windows 6.0 uses the command DDEINITIATE.

To initiate a conversation with Slick!, the client application must use SLICK.GFX as the service application name and SYSTEM as the topic name. For example:

INITIATE("SLICK.GFX";"SYSTEM")

DDE execute commands

The format of the Slick! execute command string is:

[command parameter1 parameter2 ... parametern]

The following example tells Slick! to open a specific file:
EXECUTE(chnl;"[OPEN d:\acad\dwgs\pump.dwg]")

In general, the command string must be delimited by brackets [ ]. However, macros being written for some Windows applications may not require the brackets and in some instances will cause an execution error if included. If this is the case, simply remove the brackets from the macro statement.

Every execute string should start with a valid Slick! DDE command defined in the tables below.   A single space character is required to separate the command from its parameters if any. Multiple parameters are also separated from each other by a single space character.

Note: Commands and parameters that are capitalized must be entered exactly as shown. A "point" parameter expects two numbers separated by a comma (for example, 12.4,10)

Sample Visual Basic Microsoft Access Interface

The following code will start Slick! as an external drawing viewer and passes to it the folder and filename of the drawing to be viewed.

```
Private Sub cmdRunApp_Click()
    'Routine to start external drawing viewer (slick 7)with selected
     file

On Error GoTo Err_cmdRunApp_Click
    Dim stExecutable As String
    Dim stAppName As String
    Dim FolderName As String
    Dim FileName As String

     'Change the following folder location to reflect actual installed
      folder

    stExecutable = "C:\Drafting\Slick\slickwin.exe"

    'The actual names of the text boxes in my form

    FolderName = Me!Dwg_Location
    FileName = Me!Electronic_file_name
    stAppName = stExecutable & " " & FolderName & "\" &
     FileName
    Call Shell(stAppName, 1)

Exit_cmdRunApp_Click:
    Exit Sub

Err_cmdRunApp_Click:
    MsgBox Err.Description
    Resume Exit_cmdRunApp_Click

End Sub
```

Sample VBA macro for Excel '97

If the Excel spreadsheet cell contains the complete path of a file you wish to open with Slick!, this macro will execute Slick! and open that file.

```
Sub CallSlick()
  Dim ddeChannel As Long
  'Slick! must be running before a DDE conversation can be started;
  'To check if Slick is running, you may use a function like
  FindWindow();
  'If Slick is not running then you may run Slick from a shell as
  shown 'below
  'Shell Pathname:="D:\slickv80\slickwin.exe", _
     WindowStyle:=vbNormalFocus

  On Error GoTo DDEFailed
  'Initiate DDE conversation with Slick
  ddeChannel = DDEInitiate(App:="SLICK.GFX",
Topic:="SYSTEM")
  AppActivate "SLICK!", Wait:=True
  'Open a drawing file. If the cell contains an entry for the complete
path      'name of a drawing that you want to open, get the string
value of the cell     'and concatenate it with the OPEN command to
create a new string,
  ' then use this string instead as part of the DDEExecute command
  DDEExecute Channel:=ddeChannel, _
  String:="OPEN d:\slickv40\demo.dwg"
  MsgBox "Wait"
  DDETerminate ddeChannel
  Exit Sub

  DDEFailed:
  MsgBox "DDE Failed"
End Sub
```

Sample Visual Basic 6.0 Code

```
Private Sub Command1_Click()
'function to start Slick
Shell Pathname:="c:\slickv51\slickwin.exe", _
  WindowStyle:=vbNormalFocus
End Sub

Private Sub Label3_Click()
'Procedure to initiate a conversation with Slick
'Text1 contains a directory path
'Text2 contains a file name

Label3.LinkMode = vbLinkNone
Label3.LinkTopic = "SLICK.GFX|SYSTEM"
Label3.LinkItem = "DDE_LINK"
Label3.LinkMode = vbLinkManual
'Concatenate Open with text1 and text2
cmd$ = "OPEN " + Text1.Text + Text2.Text
Label3.LinkExecute cmd$
cmd$ = "PRINT AREA 8.0 10.5"
Label3.LinkExecute cmd$
cmd$ = "PRINT START"
Label3.LinkExecute cmd$
End Sub
```

GENERAL DDE COMMANDS		
Command	**Parameter**	**Purpose**
CHANGEDIR	path	If you open a file for viewing using DDE, Slick will open the drawing directly without refreshing the file and directories windows! This is to save on processing time. If you wish to force a directory read, issue the change directory command CHANGE DIR. For example, "CHANGEDIR D:\NEWDWGS"
COPYIMAGE	none	Copy the current display to the Windows Clipboard as a bitmap image.
COPYVECTOR	none	Copy the current display to the Windows clipboard as a Windows Metafile.
LAYER	layername 0 or layername 1	Turns the given layer ON or OFF Ex. LAYER NOTES 0 turns off layer notes You must issue the REGEN command below to redraw the file with the new layer settings.
OPEN	filename	Display a file. Include extension if present. Ex: OPEN d:\acad\dwgs\test.dwg
ZOOM	E	Display the current file to its extents.
ZOOM	W point point	Display a windowed portion of the file as specified by the two point parameters. The values for "point" should be the actual drawing coordinates in decimal representation. Ex: ZOOM W 0,0 8.5,11
MOVEWINDOW	X Y width height	Change the position and dimensions of the Slick! window on the Windows desktop. The parameters are measured in screen pixels with the upper left screen corner at 0,0. X specifies the position of the left side of Slick!'s window. Y specifies the top position. Width and height give the dimensions of the Slick! window
TOPWINDOW	none	Makes the Slick! window topmost on the Windows desktop
REGEN	none	Redraws the graphics image after AutoCAD layers are turned on or off with the LAYER command.
FILESPEC	new file string	Example: *.DWG, *.PLT, *.TIF
WINDOW HIDE		Hides the Slick! window
WINDOWSHOW		Shows the Slick! window
WINDOWMINIMIZE		Minimizes the Slick! window
WINDOWMAXIMIZE		Maximizes the Slick! window

WINDOWRESTORE		Restores the Slick! window
QUIT	none	Terminates Slick!

DDE Print Commands		
PRINT	AREA x y	Sets the maximum printable area. 'x' inches wide by 'y' inches high. Ex. PRINT AREA 8.0 10.5 (A-size paper)
PRINT	DBINFO 0 or DBINFO 1	Turn on or off the print database record option. Ex. PRINT DBINFO 1 (print the db record)
PRINT	FIT 0 or FIT 1	Turn on or off the plot to fit option. Ex. PRINT FIT 0 (plot to user set scale)
PRINT	ORIGIN x y	Moves the print origin by 'x' inches horizontally and 'y' inches vertically. Ex. PRINT ORIGIN 1.0 -1.0
PRINT	SCALE d_unit p_unit	Establishes print scaling. Each drawing unit (d_unit) will be plotted to each print inch (p_unit). For example, PRINT SCALE 2.0 1.0 (print at a 2 to 1 scale) Note: Make sure PRINT FIT is off for this to take effect.
PRINT	START	Prints the current file. Make sure you have set all desired print options before issuing this command.
PRINT	TOFILE 0 or TOFILE 1	Turn on or off the plot to a file option. Ex. PRINT TOFILE 1 - send the output to a plot file. The plot filename is the same as the drawing name with an extension of .PLT

Frequently asked questions

General

What operating systems does Slick! v8.0 for Windows run on?
V8.0 is a 32-bit version and will only run on Windows 95/98/ME/NT/2000/XP.

What is the difference between v4.0 and v8.0?
Slick! v4.0 is 16-bit while v8.0 is 32-bit. New features include support for long filenames, faster zooms and pans, large raster files, new formats including Word 97 and Excel 97.

How do I change the graphics window background color?
Run the Slick! configuration program and set the background color. Set it to 0 for black or 7 for white.

Why are some of my files not being listed in the files window?
Use File ? Filespec to change the file specifications to include the missing file types. To make this permanent change, run the configuration program to set the desired file extensions.

Does Slick! supply special display drivers for Windows?
No. Slick! uses your Windows display drivers.

The directory names and file names displayed are too small?
Reconfigure your Windows display driver to display large fonts.

Can I call up Slick! from our applications for viewing files?
Yes. Slick! can function as a DDE server. For more information, consult the DDE portion of the users manual.

Is there any other method of communicating with Slick! other than DDE?
No.

Can you launch Slick! from Windows Explorer?
Yes. Associate the extensions you wish to view with Slick!

AutoCAD Related

Can Slick! view drawings created by DOS versions of AutoCAD?
Yes. The drawing format for DOS is the same as the Windows format.

Can Slick! view AutoCAD LT and AutoCAD LT 95/97/98/2000/2002 drawings?
Yes.

Will Slick v8.0 view mechanical desktop drawings?
Yes.

What AutoCAD drawing versions are suppported?
AutoCAD R9 thru AutoCAD 2002

Slick! does not display external references!
Slick! tries to find the XREF using the absolute location indicated in the drawing file. If it cannot find it there, it uses the search path indicated in the ACAD environment variable.

In network installations, make sure that the user has read access to the directories containing the XREFs.

In some cases, Slick! might be able to locate the xref if the saved path in the drawing does not contain drive and path information. For example, myxref.dwg instead of m:\xrefs\myxref.dwg.

Does CSUI have a DOS version of Slick!?
No. CSUI does not have any plans of releasing newer versions for DOS. It is not necessary. The Windows version will view AutoCAD drawings even if they were created in a DOS-version of AutoCAD

Why are circles being displayed as polygons?
For viewing speed. If you want to display true circles, disable fast zooms in the Slick! configuration program.

Why are some of my AutoCAD fonts not being displayed?
Slick! cannot locate the .SHX fonts. For simplicity, store all your AutoCAD fonts in a centralized directory and set its location via the Slick! configuration.

Can Slick! view R13/R14/2000/2002 drawings containing ACIS entities?
Yes.

Slick! does not display the diameter symbol.
Make sure that the gdt.shx file is in the SHX directory or fonts directory.

Redlining

When I redline a drawing, does Slick! modify the drawing?
No. You may save redline entities to the Slick! .RDL file. Later, you may use the provided redline.lsp file in AutoCAD to load the redline information on to the drawing as separate redline layers.

What happens when you load the same redline file in AutoCAD twice?
This will create duplicate entities in the redline layers.

Can I use multiple redline files on the same drawing?
Yes. Just make sure that you name the rdl files differently. Otherwise, the rdl files with the same names will overwrite each other.

Database

I used to be able to see database information for my drawings in the database window. I cannot see them anymore. Why?
Most common reason is that you probably moved the drawing or file to another directory. The original location of the file is stored in the database record. After you move it, there will be a mismatch and Slick! will not be able to find a record in the database. You should use the Slick! copy command instead of the standard file manager copy.

Another reason is that the database is corrupted. The database might have been modified externally without maintaining the structure.

The index might also be corrupted. Delete the .CDX files from the Slick! database directory. Normally this is at SLICKDB.DIR at the root level of the drive. Slick! will automatically recreate the indexes.

What is the fastest way to import all the title block information from our existing AutoCAD drawings into the database?

Tag all the files in the directory and do an import drawing link.

My drawings are in separate directories. Can I tag the entire drive?
No. You can only tag files one directory at a time.

Slick! says "Database does not exist" but I know it's there.
Another application has the database opened.

Why is my database index is frequently corrupted?
This problem is common in Windows 95 OEM Service Release 2.x.. The source of

the problem is the file VREDIR.VXD. Microsoft has provided a new version (210k) for Windows 95 that will fix this problem. The patch executable is a self-installing program which will install itself and make the needed changes to your Windows setup.

More information on this bug can be found in article Q174371 in the Microsoft Knowledge Base.

Raster Conversions

Can Slick! convert my drawing file to a raster file?
Yes. Conversion to a PCX or TIFF file seems to offer the best conversions.

Can I convert my raster files to AutoCAD drawing files?
No. This requires special raster to vector software.

What are the resolution limits for converting drawings to raster files?
The maximum resolution for Windows 95, 98, ME is 2048.
The maximum resolution for Windows NT, 2000, and XP is 8192.
The maximum resolution for converting to color raster images is 3072 regardless of operating system.

PDF Conversions

Can Slick! convert my drawing file to a PDF file?
Yes. Slick! will convert whatever is visible on the graphics screen to a raster PDF file. If you are converting to the same PDF file, a new page is added to the file.

How can I get higher resolution for the converted PDF?
If you are converting Cals files, the converted raster PDF does not suffer from loss of resolution even when zoomed-in.

For other files, it is suggested that you use Adobe PDFwriter available from Adobe Corportion. Configure Slick! to print to the PDFWriter printer. The result will be a high-resolution PDF file.

I have a bunch of files I want to convert to PDF. What is the best way to do this?

You have two options.

You can use the raster convert feature. Tag the files to be converted and select the convert tagged files option.

Or you can batch print to PDFWriter if you have it installed. This is the best way to achieve high-resolution PDF files.

Printing

Why do I get floating-point errors while printing?
Make sure that the plot area or user scales contains valid values. For example, you cannot have a 0 by 0 plot area.

Does Slick! supply special printer drivers?
No. Slick! uses your Windows printer drivers. If you are having printing problems, try the get to the latest drivers from the printer manufacturer.

Why can't Slick print to a particular printer while it prints on others?
Some printer drivers can only print text information and not vector or graphics files. See if the manufacturer can update your driver for you.

Why do I get blank areas on my printed output?
Imagine the graphics window as the paper itself. Slick! prints whatever is on the graphics window. If you have blank areas on the screen, you will get corresponding blank area on the paper. Try adjusting the left or right edge of the graphics window.

When I print using landscape mode, the image is not filling the page.
Reverse the x and y plot area values. For example if portrait x,y values are 8 by 10. Landscape should be set to 10 by 8.

The lines on my print out are too fine. How do I get thicker lines?
This problem occurs in version of Slick! prior to v7.0.002. Newer versions solved this problem. Visit www.slickwin.com to download the latest version. This occurs normally on high-resolution printers running at 600 dpi or more. On black and white printers, the first thing to do is to set all colors to pen 7 (black) in the Slick! print dialog box or select the "Print to Black" option (7.0.014). Colored lines will now appear sharper. You may try any of the following. Setup your Windows printer to a lower resolution, enable print to black option if available, or disable dithering of bitmap images. You can also disable dithering using the Slick! configuration program.

Does Slick! support lineweights?
Yes for AutoCAD 2000/2002 drawings only. For older release, Slick! cannot increase the thickness of printed lines. Some plotters like the HP DesignJet 650C allow you to set pen widths by color via firmware. This has proved satisfactory for most users.

I can view cals .gp4 files with a black background but would like to print with a white background. How do I do this?

Try using the Invert menu in the display menu to convert white-on-black to black-on-white and vice-versa. Slick! will always print whatever is on the screen. You cannot reverse the colors for printing.

Network Version

Are the network licenses concurrent?
Yes. If you have a five-user license, any five users can access Slick! at the same time. However, all potential users of Slick! must have a Slick! configuration file in their local hard disk. Slick! itself is stored in the network server.

Can I order additional nodes if my company needs more?
Yes.

Can I install the single user version of Slick! on the network drive for use by users connected to the network?
Absolutely not. The single user version is for use on a stand alone computer. If you wish to use Slick! in a network environment you should purchase the network version.

How do you set the SLICK environment variable under Windows NT?
You may set the Slick environment variable from the Windows NT control panel. Choose the system icon. In the System dialog box, select any variable from the Environment Variables box.

In the Variable box, enter the variable name SLICK. In the Value box, enter the path to the Slick! configuration directory for this user. Then choose Set.
The new variable will now be listed in the User Environment list box. Then reboot the system for the new environment variable to take effect.

Can two Slick! users view the same file at the same time?
Yes. As long as the users' access rights to the directory are set to READ or the file itself has the read-only attribute set. Also, make sure that SHARE.EXE is loaded into DOS upper memory using the load high DOS command.

Can Slick! view a drawing while it is being edited in AutoCAD by another user?
Yes. As long as you have not enabled file-locking in AutoCAD.

I am getting a busy signal trying to run Slick! on the network when I am the

only one trying to run it. Why?

Chances are the SLICK.PCT file which monitors the number of concurrent users is corrupted. This can happen if users log on to Slick! but do not log off. Slick! thinks they are still connected and does not decrement the license counter. Make sure that nobody is using Slick! and then delete the SLICK.PCT file from its location on the network server.

When I configure Slick! to do an automatic drawing link import, the database records are automatically created with information from the AutoCAD attributes. How can I create a record with non-AutoCAD files?
You can still create the database record by importing the link. Slick! will not find any matches but will create the record anyway. When you browse thru the database you will see the path and filename of the non-AutoCAD drawing.

Will the network version run on a peer-to-peer network?
Yes. As log as a unique drive letter is mapped to the server.

Does the network version support UNC?
No.

SUPPORTED FORMATS

GROUP I FILES

Description	EXT	Type
*HPGL or HPGL/2 plot files	PLT	V
Amiga data, Commodore-Amiga	IFF	R
ATT Group IV	ATT	R
AutoCAD drawing interchange file	DXF	V
AutoCAD drawings from Rel 9 thru ACAD 2002	DWG	V
AutoCAD slide files	SLD	V
Cals Group IV, Department of Defense	CAL,GP4	R
DICOM medical image format	DCM	R
Flashpix 24-bit tiled JPEG data	FPX	R
GEM bitmap files	IMG	R
Graphics Interchange File Format, Compuserve	GIF	R
Halo Cut, Media Cybernetics	CUT	R
Jedmics CCITT G4 tiled image format	C4	R
JPEG, Joint Photographic Experts Group incl CMYK	JPG	R
Kodak PhotoCD	PCD	R
Kofax	KFX	R
Laser Data, one bit per pixel	LV	R
MacIntosh	PIC	R
MacPaint Images	MAC	R
Microsoft Icon file format	ICO	R
Microsoft Icon one bit per pixel	ICA	R
Microsoft Paint	MSP	R
Microsoft Windows bitmap files	BMP	R
Multiple PCX images, Intel	DCX	R
PC Paintbrush	PCX	R
Photoshop bitmap	PSD	R
Portable Network Graphics Internet Format	PNG	R
Postscript (Preview image only, usually TIFF)	EPS	R
Run-length encoded format	RLC	R
Showpartner	GX2	R
Sun Raster	RAS	R
Tagged image file format; uncompressed, pack bits, modified Huffman, Group 3/fax, Group 4/fax	TIF	R
Targa	TGA	R

Description	EXT	Type	Zoom
Winfax CCITT G3 compression	FAX	R	
X bitmaps	XBM	R	
X Windows Dump	XWD	R	
X Windows Pixmap	XPM	R	

* Batch printing is not supported for HPGL plot files

GROUP II FILES (Batch Printing and Redlining are not available for these files)

Description	EXT	Type	Zoom
Ami Draw	SDW	V	Y
Ami / Ami Pro versions thru 3.1		WP	N
Computer Graphics Metafile	CGM	V	Y
Corel Draw versions thru 8.0	CDR	V	Y
Corel Presentations versions 8.0 & 9.0			
Corel WordPerfect for Windows versions thru.9.0	DOC	WP	N
DataEase 4.x		DB	N
Dbase versions thru 5.0	DBF	DB	N
DBXL version 1.3		DB	N
DEC DX 3.0, 3.1, 4.x		DB	N
DLL	DLL	OT	N
Enable DOS versions 3.0, 4.0, 4.5	ENS	WP	N
Enable Spreadsheet versions 3.0, 4.0, 4.5		SS	N
Enable Database version 3.0, 4.0, 4.5		DB	N
Executable EXE	EXE	OT	N
First Choice Database version thru 3.0		DB	N
First Choice Spreadsheet version thru 3.0		SS	N
First Choice versions thru 3.0		WP	N
FoxBase version 2.1		DB	N
Framemaker	FMV	DP	N
Framework version 3.0		DB	N
Generic WKS	WKS	SS	N
Graphics Interchange File Format, Compuserve	GIF	R	N
Harvard Graphics DOS 3.0 Presentation		PR	N
IBM DCA/FFT		WP	N
IBM DCA/RFT		WP	N
IBM Display Write 2, 3, 4, 5		WP	N
IBM Graphics Data Format	GDF	OT	N
IBM Writing Assistant		WP	N
Internet - UUEncode		WP	N
Internet Word Wide Web	HTM	OT	N

Just Write versions thru 3.0		WP	N
Legacy versions thru 1.1		DB	N
Lotus 123 (DOS & Windows) versions thru v5.0		SS	N
Lotus Symphony versions 1.0, 1.1, 2.0		DB	N
Lotus 123 for SmartSuite 97		SS	N
Lotus 123 for OS/2 versions thru 2.0		SS	N
Lotus 123 Charts (DOS & Windows) version thru v5.0		SS	N
Lotus 123 Charts (OS/2) versions thru 2.0		SS	N
Lotus Manuscript 1.0, 2.0		WP	N
Lotus PIC	PIC	PR	N
Lotus Snapshot		OT	N
Lotus WordPro 96, 97		WP	N
Mac WordPerfect 1.x, 2.0, 3.0		WP	N
Mac Works version thru 2.0		DB	N
Mac Works version thru 2.0		SS	N
Mac Works version thru 2.0		WP	N
MacWrite II		WP	N
Mass 11 DOS thru 8.0		WP	N
Micrograpfx Product	DRW	V	Y
Microsoft Access versions thru 2.0		DB	N
Microsoft Excel Charts 2.x thru 7.0		PR	N
Microsoft Excel 2.x thru 7.0, 97	XLS	SS	N
Microsoft Excel 2000	XLS	SS	N
Microsoft Multiplan veersion 4.0		SS	N
Microsoft Office Binder	BDR	OT	N
Microsoft Word DOS versions thru 6.0	DOC	WP	N
Microsoft Word Windows versions thru 7.0, 97	DOC	WP	N
Microsoft Word 2000	DOC	WP	N
Microsoft WordPad all versions		WP	N
Microsoft Works Windows versions thru 4.0		DB	N
Microsoft Works DOS 1.0, 2.0 WP		WP	N
Microsoft Works SS		SS	N
Microsoft Works Windows versions thru 4.0		WP	N
Mosaic Twin version 2.5		OT	N
Multimate 3.6, 4.0		WP	N
Multimate Advantage 2		WP	N
Multimate Note		WP	N
Navy DIF	DIF	DB	N
Novell Perfect Works version 2.0		SS	N
Office Writer		WP	N
Paradox DOS versions thru 4.0		DB	N

Paradox for Windows		DB	N
PC File 5.0 Doc		WP	N
PFS: Professional Plan version 1.0		SS	N
PFS: Write A, Write B		WP	N
PowerPoint 4.0 for Macintosh		PR	N
PowerPoint for Windows7.0		PR	N
PowerPoint 97		PR	N
PowerPoint 2000		PR	N
Professional Write Plus version 1.0		WP	N
Q & A Database		DB	N
Q & A Write version 3.0		WP	N
Quattro Pro for DOS versions thru 5.0		SS	N
Quattro Pro for Windows versions thru 9.0		SS	N
R:Base Personal version 1.0		DB	N
R:Base 5000 version thru 3.1	RBS	DB	N
R:Base System V version 1.0	RBS	DB	N
Reflex		OT	N
Rich Text Format	RTF	WP	N
Samna		WP	N
Self Unzipping EXE	EXE	OT	N
Smart Database		SS	N
Smart Ware II version 1.02	SMD	DB	N
Sprint		OT	N
SuperCalc 5 version 4.0		SS	N
Text - ANSI char set 7-bit, 8-bit		WP	N
Text - DOS char set 7-bit, 8-bit		WP	N
Text - Unicode		WP	N
Total Word		WP	N
Unix Compress		OT	N
Unix Tar		OT	N
VCard Electronic Business Card		OT	N
Visio VSD	VSD	OT	Y
Volkswriter		WP	N
VP- Planner 3D version 1.0		SS	N
Wang IWP		WP	N
Windows Metafile	WMF	R	N
Windows Works Database		DB	N
Windows Works Spreadsheet		SS	N
Windows Write versions thru 3.0		WP	N
Word for Macintosh versions 4.0 thru 6.0		WP	N
Word for Windows 1.x, 2.0, 6.0, 7.0, 97		WP	N

WordPerfect Graphics File	WPG	R,V	N
WordPerfect Presentations		PR	N
WordStar 2000		WP	N
WordStar for Windows version 1.0		WP	N
XyWrite / Nota Bene		WP	N
ZIP files	ZIP	OT	N

Notes:
  -Adobe PDF files may be viewed by double-clicking on the filename. This will launch
  Adobe Acrobat Reader if it is present in your system.

  -Adobe PDF files may be batch printed by tagging multiple files in the Slick! files
  window. When you issue the Print command from the Slick! menu, click on Tagged Files
  in the print dialog box. This will use Adobe Acrobat Reader to batch print the pdf files.

  -Microstation DGN and SolidWorks files may be viewed in a similar fashion if a viewer
  is registered to their respective extensions.

Technical Support

Phone support is free for the *first thirty days* after purchase. Optional annual telephone support contracts are available. For more information, contact CAD Systems Unlimited, Inc.

Please read this manual first before calling CAD Systems Unlimited, Inc. for technical support.

It is important that you register your copy of Slick! for Windows. This will allows us to send you important information on updates and upgrades

If you purchased the product from a dealer, please call your dealer for assistance.

If you purchased the product directly from CAD Systems Unlimited, Inc., you may contact the company at:

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