

Structural Desktop - Single-Seat Workstation Professional Version 4.0

Installation Instructions

Please read **Section 4, Registering Your License**, before registering your purchase of **Structural Desktop**. If you have already registered a previous version on the same system, uninstall that version using the ADD/REMOVE Programs Windows function from your Control Panel, then install Version 4.0. Your system SHOULD recognize the earlier registration as applying to this installation if this is an UPDATE. A new authorization code is not required for this new system.

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1 - System Requirements

Structural Desktop runs under Windows ME, 95, 98, NT, and Windows 2000 or XP. You must already have AutoCAD 2000 (or a later version) running on your system. Any system sufficient to run AutoCAD under Windows will also run **Structural Desktop**.

We recommend a minimum of a Pentium III system (or equivalent) running at 500 MegHz or better, 256 Megabytes of memory, and a C: drive with 12 Megabytes of storage available. We recommend a monitor resolution of at least 1024x768.

If your AutoCAD program has been modified in any way, please verify that the right-click button menu is active in your copy of AutoCAD before installing **Structural Desktop**. With AutoCAD running, clicking the right-mouse-button should invoke a menu with selections such as **Cut**, **Copy**, and ending in **Options**.

All **Structural Desktop** functions are accessed through the right-click shortcut menu when the program has been installed. Additional information is enclosed for users who wish to use the program with Architectural Desktop in Section 6.

If your copy of AutoCAD does not show a right-click menu:

Type **Options** at the AutoCAD command line. The **User Preferences** tab on this dialog box has a group labeled **Windows Standard Behavior**. Make certain "Shortcut Menus in Drawing Area" is **CHECKED**. Then click the **Right-click Customization** button and make certain that the Shortcut Menu is enabled for all modes of AutoCAD operation.

Once you have Applied these changes and Closed the Options Dialog box, you should see the required shortcut menu when you right-click in the drawing area. Since this is the default setting, if you still do not see this menu, check with your System Administrator to determine how your copy of AutoCAD has been customized.

2 - Installation Instructions

It is recommended that you close all other programs AND anti-viral software while you install Structural Desktop. You do not have to reboot your computer after you install Structural Desktop, and you may restart anti-viral software once the program has been installed.

Place the CD that arrived with your package of **Structural Desktop** in your CD drive. Click the **Start** button on your Windows Desktop and select the **Run** option. Select **Browse** from the dialog box, and locate the proper "**EXE**" file on the disk.

- If you are using AutoCAD 2000, 2000i, or 2002 or Architectural Desktop 3.3 the file will be "**SDT2000.exe**".
- If you are using AutoCAD 2004, 2005, or 2006 or Architectural Desktop 2004 or above, the file will be "**SDT2004.exe**".
- If you are using AutoCAD 2007, 2008, or 2009 or a copy of Architectural Desktop based on these versions, the file will be "**SDT2007.exe**".

Run the appropriate EXE program. When prompted, you should click [**Next**] at each step to proceed through the installation. Read the End User License Agreement (**EULA**) and Accept it.

You should permit the program to create a new directory/folder on your **C** drive. The program requires approximately 12 megabytes and the program is required to be installed to the folder: **C:\Program Files\Structural Desktop**.

Once the installation is complete, remove the CD from your CD drive. Put your copy of the CD in a safe place in case you upgrade or change your computer. Copies of the **USER** files for your analysis program, the **Documentation** files, and the SDT **database** files are on the CD, as well as being installed on your system, for backup/repair purposes.

In addition to the printed manual, documentation is available from within the program via the Adobe Reader. The most current version of the Adobe Acrobat Reader is freely available on the web at: <http://www.adobe.com/>

All of the files required to run this program are placed on your system in the **C:\Program Files\Structural Desktop** folder.

Please note the following important files in **C:\Program Files\Structural Desktop**:

SDesktop.arx	Structural Desktop Program
SDT_ADT.exe	ADT File Generator
SDT_CSI_SAP.exe	SAP2000 READ/WRITE Functions
SDT_GTSTRUDL.exe	GT STRUDL READ/WRITE Functions
SDT_MATREP.exe	Material Report Generator
SDT_RISA.exe	RISA 3D READ/WRITE Functions
SDT_STAAD.exe	STAAD.Pro READ/WRITE Functions
SDEdit.exe	Structural Desktop Text File Viewer Program
CustomComponents.exe	Structural Desktop Member Generator for tapered sections, etc.
Select.exe	Structural Desktop Tables Management and Selection Program

These ten programs function together to bring you the functionality of *Structural Desktop*.

Removing or modifying any program or data file from the **Structural Desktop** folder or sub-folders may result in the **Structural Desktop** program halting or failing to function.

To Un-Install the program, use the **ADD-REMOVE Programs** option under the Windows Settings/Control Panel from the Start Menu. This will remove the Structural Desktop program and installed DLL files. You should then delete the **Structural Desktop** directory and any contents not removed by the uninstaller.

3 - Running the Program

Structural Desktop is an **Autodesk ObjectARX** add-in built using the Microsoft C++ Compiler. The program can be loaded manually from within AutoCAD as needed or set to load every time you run AutoCAD. **ADT** users should follow the instructions in **Section 6** rather than those below.

Manual Loading - We recommend manual loading until you have registered the product.

Run AutoCAD and type "**Appload**" at the command prompt **or** select the menu item "**Load Application**" which is found under the "**Tools**" heading in the standard AutoCAD menu.

The **Load/Unload Applications** dialog box will appear. There is a drop-down box labeled "**Files of Type**", which may show many different selection criteria; if the drop-down does not read "**AutoCAD Apps**" with a list including **(*.*arx)** or "**ObjectARX Files**" **(*.*arx)** then click on it and change it.

Locate and select the file:

C:\Program Files\Structural Desktop\SDesktop.arx

Click on the file and click the button marked [**Load**]. In some versions of Windows, an error code will appear the first time you do this. If this occurs:

- 1) Exit AutoCAD
- 2) Re-enter AutoCAD and try to load the program again.

If you cannot enter **Structural Desktop** after exiting and reloading three times, email support@figure5.com with the information specified on the back page of this document.

The **Registration Status** dialog box will appear. You can run **Structural Desktop** a maximum of **50** times before you obtain an authentication code. Until you do so, click "Continue" on this dialog box. (Section 4 deals in depth with Registration.) You may then **Close** the **Application Load** dialog box.

It is always possible that new versions of Windows and new service packs may, in the future, require adjustments to **Structural Deskto**. If your copy of Structural Desktop fails to load, please contact our support via the email address: support@figure5.com

When loading is successful, the AutoCAD command line will report:

```
Structural Desktop Workstation Ver. V 4.0 EVALUATION      Loaded  
SDesktop.arx successfully loaded.
```

If you do not see the **Structural Desktop** Menu when you right-click in the AutoCAD window, please check the right-click settings described at the bottom of the first page.

Automatic Loading

There are three ways to make **Structural Desktop** load every time you run AutoCAD. The recommended method begins by running AutoCAD and entering "Aplload". On the **Application Load** dialog box, click on the button at the bottom right labeled "Contents" under the group-heading "**Startup Suite**". Click "Add" and select the **SDesktop.arx** file in **C:\Program Files\Structural Desktop**. This will add **Structural Desktop** to AutoCAD every time AutoCAD is run.

The second method is to create a text file in your AutoCAD directory. This file should be named "**Acad.rx**". If this file already exists, add a line (using a pure-text editor such as **Notepad**) that says:

```
C:\Program Files\Structural Desktop\SDesktop.arx
```

If the **Acad.rx** file is not in your AutoCAD directory, create it and place this line in it. This will invoke the program when AutoCAD is loaded, just as adding it to the Startup Suite will.

The final method is to create a Desktop Icon to launch AutoCAD and **Structural Desktop**. The method for creating this icon is detailed in the Section 6 dealing with **Architectural Desktop** users. The advantage of this method is your original AutoCAD icon can be used to launch AutoCAD alone. **Structural Desktop** has very low memory requirements until you actually invoke a **Structural Desktop** command in a given AutoCAD session, but creating a Desktop Icon can solve compatibility problems in running **Structural Desktop** with other 3rd-party applications, and is strongly recommended if you are using **Architectural Desktop**.

Structural Desktop will not completely load until you use one of its commands. Until you open an analytical file, a Hold file, or start a new **Structural Desktop** document, you are in an ordinary AutoCAD session. It is possible, however, that other routines or programs available to run within AutoCAD will not be compatible with **Structural Desktop**. Please keep this in mind when setting up your environment. You may find no problems loading several applications, but you can separate **Structural Desktop** from applications that do not apply to it, and use the programs separately, using desktop shortcuts.

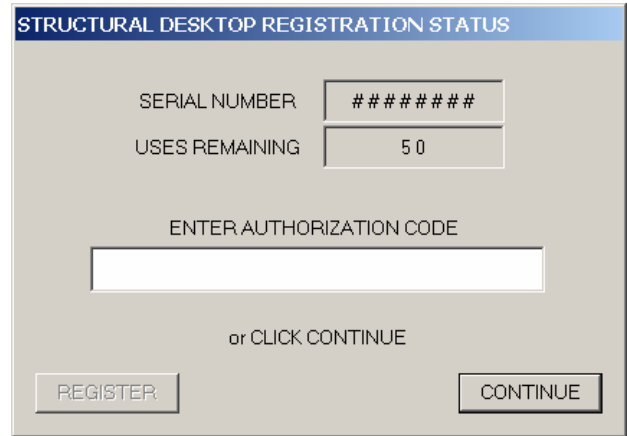
With **Structural Desktop** loaded, **Structural Desktop** is the second item on the right-click menu. The first item will always be the most recent command executed, and will execute that command again. This works with **Structural Desktop** commands or AutoCAD commands.

For further information on running Structural Desktop, please refer to the **Structural Desktop** Users Manual and the **Structural Desktop** Tutorial.

4 - Registering your License

Your copy of **Structural Desktop** will run as an Evaluation copy until you enter a unique Authorization Code. After 50 uses, an Evaluation copy continues to present the registration box but will not run **Structural Desktop**.

To obtain the authorization code, you send a serial number to us and we send an authorization code to you. We also require enough information to be able to send you the maintenance upgrades that we have committed to provide.



- a) Have the CD Number available from your CD, Manual, Tutorial, or Box. This is your customer number.
- b) Get the Serial Number from your **Structural Desktop** program. This serial number is on the **Structural Desktop Registration Status** Dialog Box (as shown above). This number is an eight-digit code that will be unique each time you install **Structural Desktop**. The number is in a hexadecimal format (numbers Zero through Nine and Letters A through F).
- c) You may then email or fax the following:

CD Number, Serial Number, NAME, COMPANY NAME, ADDRESS, TELEPHONE NUMBER AND FAX NUMBER.

E-MAIL TO: license@structuraldesktop.com
OR FAX TO: (479) 471 - 5225. (United States)

We will create a unique unlock code for your serial number and will respond as soon as possible. Response times will vary, but should never be more than one business day. Email is the preferred method, and we will respond via email if possible (you can copy-and-paste the code into the dialog box!). If your request is faxed, indicate if you want the response via fax or email.

Information you entrust with us will remain confidential.

Once we have your information and the serial number, we will return to you an unlock code. This code is in five groups of four digits, and consists of CAPITAL letters and numbers, also in hexadecimal format. (0-9 & A-F) (example: 1234-5678-90AB-CDEF-0987)

When you have the code, run **Structural Desktop**. In the **Registration Status** dialog box, click in the box labeled "**Enter Authorization Code**" and either copy-paste the code from your email or carefully type in the numbers and CAPITAL letters WITH DASHES between groups. Click on the "REGISTER" button that becomes available. If the code is entered properly you will see a change in your status. Press the Continue button **and you should never see the Register Dialog Box again**. The splash screen will update to show your status as Licensed rather than Evaluation.

Unless you format the C:\ drive, the serial number should not be required again. If you have difficulty, contact **Structural Desktop** for assistance. New authorizations will be provided as needed when you upgrade, replace or repair systems.

5 - Fine Tuning AutoCAD

There are a few settings that need to be checked and/or changed so that the program can give you its best performance. If you do not wish to change these settings, the program will run except as noted below. Changing the settings takes a couple of minutes.

Start AutoCAD. Under the Tools section of the menu, select Options.

On the tabbed dialog box, select the tab "System." On the right-hand side, make certain that the box labeled Single Drawing Compatibility Mode is NOT checked.

If this is checked, your attempts to extract 2D drawings will not work; AutoCAD will not open another drawing in the same session for **Structural Desktop** to draw in. If this is **UN**checked, 2D and 3D drawings **will** open as needed inside the current AutoCAD session.

On the same tabbed dialog box, select the tab **User Preferences**. **Shortcut Menus in Drawing Area** should be checked. Click on the button below this item marked Right-Click Customization, and make certain that each choice is set to the last choice, enabling Shortcut Menus where appropriate for the **Structural Desktop** right-click style.

Please note: some in-house modifications to AutoCAD can disable the right-click, or shortcut menu. Unless the right-click menu is available, the **Structural Desktop** menu cannot be accessed. This issue should be addressed with the personnel who modify or maintain your systems and programs.

Structural Desktop uses the existing **Template** file to create new drawings. The Template file is a blank drawing that sets the values when you first open an empty drawing through "New". **Structural Desktop** will use the current template with dimension style, current text style, layouts, or other settings in creating each new drawing for you.

Once you have set these parameters and saved a template file, **Structural Desktop** will be customized to your style. Refer to your AutoCAD manual for further information.

Reminders

1. Always Save a **Structural Desktop Model** as a **Hold** file.
2. **OUTPUT** drawings, 3D or 2D, are saved as a drawing files.
3. Do not use AutoCAD **undo** while using **Structural Desktop** commands.
4. Open only **one** analysis or hold file at a time.
5. Start AutoCAD fresh each time you work on a different **Structural Desktop** model.
6. Do not use "XREF" drawings with a **Structural Desktop Model**. Use XREF with the output drawings, which are 100% plain AutoCAD drawings.

We hope you find everything in the program to your liking. If you have a problem with the program, please let us know.

Our development team is committed to providing a product for Structural Engineers. We have an ambitious set of goals including future releases, upgrades, and expansion of the program to be the complete Structural Engineers' contract document program.



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6 - ADT Installation

Structural Desktop (SDT) works with a set of objects created with different data and properties than ADT structural objects. The internal database for SDT retains information required for two-way interface with structural analysis packages, while this information is not necessary for ADT. In order to minimize drawing files and give the best performance possible with any computer, it is strongly recommended that SDT be run in a plain "Vanilla" AutoCAD environment, and that ADT be run in a separate environment and with the specifications set by ADT documentation and any additions you may have. Setting this up requires only a few minutes.

Once you have installed **Structural Desktop** in your Program Files directory folder on drive C, there is a simple five-step process to set up three different icons on your desktop. One icon will invoke Architectural Desktop with no changes to the program and with all of the unique capabilities it provides. The second icon will invoke a plain AutoCAD session and load **Structural Desktop** for you. The third icon will open Architectural Desktop with a template that holds definitions for all of the supported structural members. You will use this template file to create the final model in ADT from your **Structural Desktop** model.

STEP 1 - Create a Script file to run Structural Desktop

The file SDT.SCR contains the following line:

```
arx L "c:\Program Files\Structural Desktop\SDesktop.arx"
```

Copy this file into your **Architectural Desktop** directory. SDT.SCR can be found in your **Structural Desktop** directory under a sub-folder named ADT, and on the installation CD-ROM that came with your **Structural Desktop** package. (This complete directory is also available for download from the **Structural Desktop** website.) The script file can be called from within a Windows shortcut (a desktop icon), and will load **Structural Desktop** when that shortcut is invoked.

Please note that a space is included at the end of the line of text after the closing quotation mark. This executes the command without having to press the [Enter] key each time you run Structural Desktop.

STEP 2 - Create a Profile to run Basic AutoCAD

Start your copy of Architectural Desktop.

Go to the **Options** menu item.

(This is found at the bottom of the right-click menu or the **Tools** menu item.)

Click on the **Profiles** tab.

Click the **ADD to List** button.

Enter the Profile Name "SDT".

(If you wish, you may enter a description such as "Structural Desktop")

Click the **Apply & Close** button.

Click on this newly created (SDT) profile and then click the **RESET** button

Click **Yes** to the Alert that pops up. You **DO** want to reset this profile.

Click **OK** on the **Options** Dialog Box to close it.

Exit Architectural Desktop. You do not need to save the drawing file.

Note: Creating a separate profile will guarantee that no AEC functions are demand loaded. This permits you to get maximum value from your system memory and resources when you are running **Structural Desktop** and helps to separate the two programs.

STEP 3 - Create Alternate Desktop Icons for Architectural Desktop

If you already have a Desktop Icon to load Architectural Desktop, right-click on the icon and select **Copy**.

If you do not, click the **Start** button for Windows, find the link to Architectural Desktop, right-click on this item and select **Copy**.

Click on a blank portion of your screen, right-click and select **Paste**. Create a total of **Three** such Icons by pasting twice on your desktop. Right-click on each copy and select **Rename**. You may rename them to whatever you find appropriate, such as **Structural Desktop** and SDT to ADT.

STEP 4 - Copy Template Files and Modify First Desktop Icon

In your **Program Files/Structural Desktop/ADT** directory you will find two **Template** files: **SDT.dwt** and **SDTADT.dwt**. Copy these two files to your **Architectural Desktop/Template** directory. **SDT.dwt** is a plain AutoCAD template with linetypes defined for Structural Desktop. **SDTADT.dwt** is an Architectural Desktop template based on **Aec Arch (Imperial - Intl).dwt** with all of the **Structural Desktop** members that ADT supports defined and given names that will work with Structural Desktop.

Right-click the Shortcut you created for **Structural Desktop** and select **Properties** from the drop-down menu. Select the **Shortcut** tab. You wish to edit the **Target** text box.

Your default will look something like this before you begin:

```
"C:\Program Files\Autodesk Architectural Desktop 3\acad.exe" /t "Aec Arch (Imperial - Intl).dwt"  
/p "C:\Program Files\Autodesk Architectural Desktop 3\adt.arg"
```

This shortcut loads AutoCAD, loads a template drawing, and loads the necessary ADT program modules to supply the ADT user interface and custom objects. To change this icon to load **Structural Desktop**:

Change **/t "Aec Arch (Imperial - Intl).dwt"** to **/t "SDT.dwt"**

Change **/p "C:\Program Files\Autodesk Architectural Desktop 3\adt.arg"** to **/p "SDT"**

Add **/b SDT** to the end of the target text. This invokes the script file mentioned in step 1 above to load Structural Desktop.

Note: You can copy and paste the text from the target box into a blank notepad file for editing and then paste the results back into the target box on the shortcut properties dialog.

If your ADT is on drive C in the program files area, the target box will now read:

```
"C:\Program Files\Autodesk Architectural Desktop 3\acad.exe" /t "SDT.dwt" /p "SDT" /b SDT
```

or, if you installed ADT on drive D, you may require:

```
"D:\Autodesk Architectural Desktop 3\acad.exe" /t "SDT.dwt" /p "SDT" /b SDT
```

Close the **Properties** dialog

Structural Desktop will now load when you click on this icon. This sequence causes AutoCAD to load, loads the **Template** file for **Structural Desktop**, loads a **Profile** without any calls to **Architectural Desktop** functions or menus, and uses a **Script** to load the **Structural Desktop** program.

Any changes you wish can be made to the **Template** file (**SDT.dwt**) such as adding more linetypes, changing dimension styles or text styles, etc. Removing linetypes or adding layers can affect the performance of **Structural Desktop** and should be tested on a case-by-case basis.

If you require assistance with this, do not hesitate to contact Structural Desktop, Inc.

STEP 5 - Modify Second Desktop Icon

The other Windows Icon is used to load **Architectural Desktop** and a drawing **Template** that permits import of **Structural Desktop** members as **Architectural Desktop** members. This icon will require ONLY that you change the **Template** file referenced by the shortcut.

The result of this change will look like:

```
"C:\Program Files\Autodesk Architectural Desktop 3\acad.exe" /t "SDTADT.dwt" /p "C:\Program Files\Autodesk Architectural Desktop 3\adt.arg"
```

Any changes you wish can be made to the **Template** file (**SDTADT.dwt**) such as adding more linetypes, changing dimension styles or text styles, etc. Do not purge any of the Structural Member styles from the Template file; you **may** purge unused styles from your drawing once the **Structural Desktop** members have been imported. Once this has been accomplished, you will be totally within an Architectural Desktop session, and any questions on that program or the Architectural Desktop Structural Members should be researched through Architectural Desktop documentation and help resources.

If you are unsure as to whether a problem with structural members relates to *Structural Desktop* or Architectural Desktop, please DO NOT HESITATE to call Structural Desktop, Inc. first.