

Autodesk 官方培训教程系列（影印版）

3D Studio VIZ

基础课件与高级课件

完全教程

Autodesk 公司 编著

Fundamentals & Advanced

autodesk®

Official Training Courseware

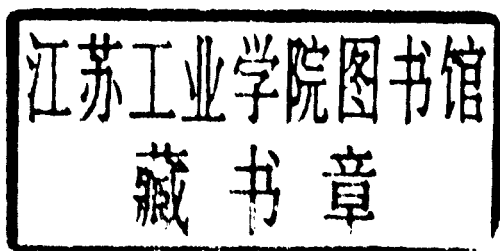


清华大学出版社

3D Studio VIZ 基础课 与高级课件完全教程

(影印版)

Autodesk 公司 编著



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• 北京 •

内 容 简 介

3D Studio VIZ 是 Autodesk 公司推出的三维动画设计软件, 目前在全球已经有广泛的应用。本书是 3D Studio VIZ 基础课件和高级课件的综合教材。它既可以做为 3D Studio VIZ 培训教师的用书, 也可以供感兴趣的学生自学时使用。本书的目的是运用具体的设计实例循序渐进地讲述 VIZ 的各项功能, 使设计师能快速理解和使用 VIZ。由于 3D Studio VIZ 的功能较多, 本教材将其内容分成基础课件和高级课件两部分。基础课件中的前三章(用户界面、建模概念和场景创建)介绍了 VIZ 的功能概貌, 包括 VIZ 的主要基础功能如链接、建模、光线设置、材料设置、静态渲染、通用建模概念、NURBS 建模和动画等, 与 AutoCAD 集成、创建对象、创建与编辑样条、创建材料、创建管线、渲染与背景这六章, 以及创建减振器模型、创建山地车模型、机械装配动画这三章, 分别以建筑和机械设计的应用实例为背景讲述了 VIZ 的这些基础功能。

高级课件分为三个模块。通用模块讲述了 VIZ 常用的高级功能如子对象级的建模、光滑网格曲面的编辑、多层复合材料、材料类型和映射、光线调整和镜头效果等。建筑模块和机械模块分别通过建筑和机械设计的应用实例, 讲述了在 VIZ 中如何增强 DWG 链接、运用 Lightscape 光线、建筑模型的动画、高级 NURBS 建模、链接机械桌面文件和机械设计的动画。

作为培训课件, 本书所带光盘中提供了丰富的图像资料和一份多媒体演示, 光盘中的内容与书中各个部分、模块和章节一一对应。

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3D Studio VIZ R3 Fundamentals & Advanced Courseware

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Part One

3D Studio VIZ Fundamentals Courseware

Introduction

Welcome to the 3D Studio VIZ® Fundamentals Courseware. This courseware manual is primarily designed to be used in instructor lead training, but can be also used by an individual learning on their own.

The book is essentially separated into 3 parts

- A general overview section comprising the first 3 chapters, which focuses on giving the reader a comprehensive tour of the program while creating a simple presentation for a household product.
- An Architectural Design section which uses real building examples to illustrate the use of linking, modeling, lighting, materials, and still rendering. This section comprises chapter 4 to 9.
- A Mechanical Design section that takes you through several stages of creating a bicycle design. General modeling concepts, NURBS modeling, and animation are all covered in chapter 10 to 12.

In using these materials we would suggest the following approach:

- Do the overview section, chapter 1 to 3 first.
- Do the section which interests you the most, Mechanical or Architectural.
- Fill in your knowledge with selected chapters from the remaining section.

In approaching this courseware we decided to focus on the development of Lab material. That is to say, material that can be done by the student at their own pace. In these labs there is a sufficient amount of explanation to execute the lab, but more detailed background information will need to be obtained from other sources.

If you are an instructor planning on using this manual in your class, we would suggest that you prepare your students to execute the lab with a theoretical lecture on the concepts used in the lab, before cutting them loose on doing the lab itself.

If you are reading the material on your own we would suggest reading appropriate sections in the 3D Studio User's guide, either before or during the lab.

I hope you enjoy using this material. We would like to hear your comments and feedback.

Roger Cusson

Discreet Courseware Manager

roger.cusson@autodesk.com

The User Interface

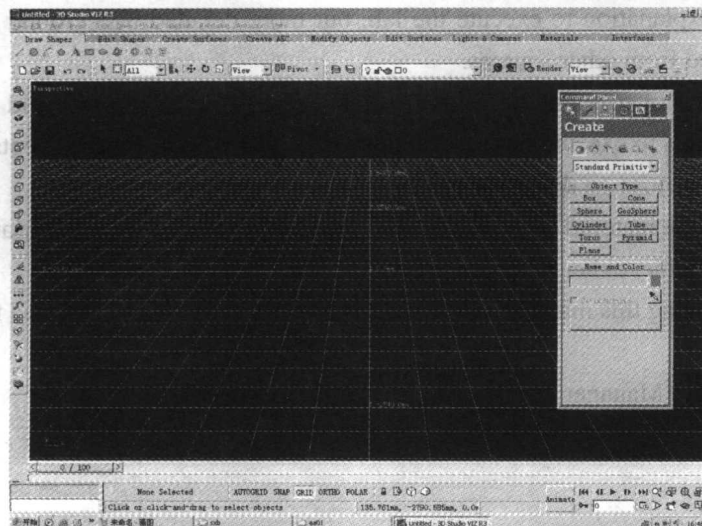
Objectives

After completing this chapter, you should be able to:

- Identify the various components of the 3D Studio VIZ User Interface.
- Navigate your model in 3D Space.
- Modify the layout of the model viewports.
- Locate functions and tools on the Pull down menu and identify the various command panels.
- Use time controls to change the current animation frame range and to playback the animation.
- Access the Material Editor and Track View dialogs.
- Access and understand various system preferences.

The 3D Studio VIZ User Interface

Let us start by taking a tour of the 3D Studio VIZ User Interface, as it first appears when you launch the program.



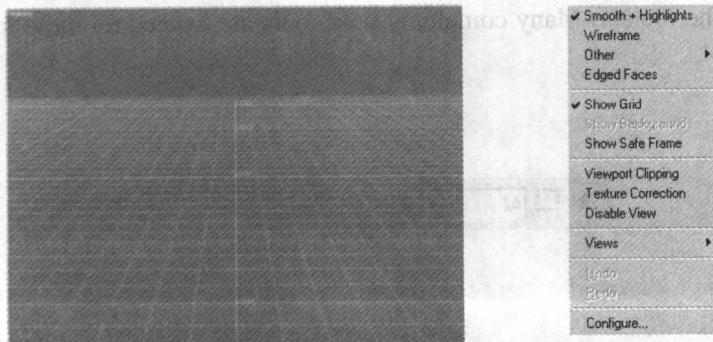
You will need to identify the names and utility of the various components of the User Interface. It's important that you understand these names as they will be referred to constantly throughout this manual.

The Main components of the User Interface can be divided into the following functional areas:

- **Model Viewport(s)** – The largest area in the interface where your 3D models are displayed.
- **Menu Bar** – The series of pull down menus at the top of the 3D Studio VIZ Window, just below the title bar.
- **Tab Panel** – The area just below the Menu Bar that contains tabbed toolbars for various features.
- **Main Toolbars** – The series of four toolbars which appear just below the Tab Panel.
- **Command Panels** – The part of the user interface located normally to the right of the viewports. Probably the most frequently used component of the user interface. Organized into 6 functional areas navigated by the icons at the top of the panel.
- **MAXScript Listener, Frame slider, Track Bar, Status Bar, Prompt Area and Toggles** – The area just below the Viewports.
- **Time Controls** – A group of Icons which contain the Animate button and animation playback icons. Located to the right of the Status & Prompt area.
- **Viewport Navigation** – A group of 8 icons located at the lower right of the user interface. Used to change the display of the viewports and the model contained within the various viewports.

Model Viewports & The Viewport Menu

The first part of the user interface you will notice is also the largest one. The area in the center of the screen is where your 3D model is displayed. It's currently a single viewport showing a perspective view of an empty scene.



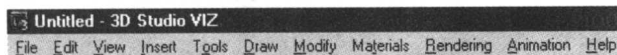
Move your cursor to viewport title: "Perspective" at the upper left corner of the viewport and

right-click. A menu termed the Viewport menu will appear, providing you with various viewport options.

Right-click anywhere in the viewport to dismiss the viewport menu.

Menu Bar

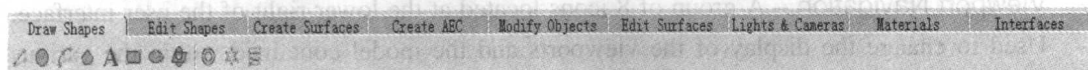
Just below the 3D Studio VIZ Title bar is the Menu Bar which contains a series of pull down menus. Move your cursor to the Menu Bar and select each title and note its contents.



Many of the functions located in the pull down menus are also located in other areas of the user interface. We will look at the contents of the Menu Bar in greater detail later in the chapter.

Tab Panel

This area is just below the Menu Bar and contains tabbed toolbars for object creation and modification. Each tab represents a fully customizable toolbar that can be removed from the Tab Panel and placed independently on the screen.



Many of the objects and modifiers from the Command panel have been placed here for easy access. Later in the chapter you will learn how to customize the Tab Panel and rearrange the tabs.

The Main Toolbars

Just below the Tab Panel is a series of Icons organized in four toolbars. As you slide your cursor over the double bars on the left side of each toolbar you should note tooltips will appear, identifying the title of the toolbar. Many commonly used tools are located on these toolbars for easy and quick access.

Main Toolbar

Selection/Xform



Object Properties

Rendering

