

Installationshinweise für AutoCAD/MDT/ADT

Sehr geehrte Kundin, Sehr geehrter Kunde,

herzlichen Glückwunsch zum Kauf von AutoCAD, Mechanical Desktop/ bzw. Architectural Desktop.

Bei der Installation Ihrer erworbenen Lizenz werden Sie vielleicht ein paar Fragen haben, deren Beantwortung Sie nicht gleich im Handbuch finden. Aus diesem Grund haben wir Ihnen, basierend auf original Autodesk Supportdokumenten, diese kleine Informationsbroschüre zusammengestellt.

Sie finden hier folgende Themen:

1. TCP/IP Requirements

Informationen zu korrekten Einrichtung des TCP/IP-Protokolls, das Grundlage für das Funktionieren des Autodesk-Lizenzmanagers auf Windows NT/95/98 basierenden Servern ist

2. Network and Client Installation and Startup Troubleshooting Guide

Lösungskatalog bei Fragen zur Einrichtung von AutoCAD

3. Installing AdLM to a Novell 4.1x Server in NDS Mode from a Windows 95 Client

Installationshilfe für das Einrichten von AutoCAD 14 auf einen Novell Server (3.12 oder höher) von einer Windows 95 Arbeitsstation aus.

4. Installing AdIM to a Novell 4.1x Server

Installationshilfe für das Einrichten von AutoCAD 14 auf einen Novell Server (3.12 oder höher) von einer Windows NT 4.0 Arbeitsstation aus.

Die Supportdokumente beziehen sich i.d.R. auf die Version AutoCAD R14. Aufgrund der identischen Installation sind die Lösungsvorschläge auf die o.g. neueren Versionen ebenso anwendbar. Hier werden nur neuere und überarbeitete Module des Lizenzmanagers installiert.

Falls Sie noch weitere Fragen haben stehen Ihnen unsere Mitarbeiter gerne zur Verfügung. Zusätzliche aktuelle Informationen erhalten Sie über das Internet direkt bei der Firma Autodesk: <http://www.autodesk.com/support/index/htm>

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Ihr co.Tec Team

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TCP/IP Requirements

Summary: This document provides an overview of the TCP/IP requirements for the network version of AutoCAD Release 14, AutoCAD MAP R2, AutoCAD LT 97, and Autodesk Mechanical Desktop R2.

<u>Product(s)</u>	<u>Release(s)</u>	<u>Platform(s)</u>
AutoCAD ^(R)	R14	Win95, WinNT
AutoCAD ^(R) MAP	R2	Win95, WinNT
AutoCAD LT ^(R) 97	4.0	Win95, WinNT
Autodesk Mechanical Desktop ^(TM)	R2	Win95, WinNT

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Overview

The network license management system supplied with AutoCAD Release 14 (AdLM) requires TCP/IP implementation on all AutoCAD Network License Servers and AutoCAD clients accessing the license manager(s). This TCP/IP requirement does not extend to file services. For example, A Novell file server, using only IPX protocol can be used to store the AutoCAD program files and data. The license manager, however, must be run on a 32-bit Intel Processor computer running Windows 95 or Windows NT 3.51/4.0 with TCP/IP enabled. On such a network, AutoCAD workstations would require both TCP/IP and IPX protocol implementation.

TCP/IP is included with all operating system versions that support AutoCAD Release 14. It may be necessary, however, to install and setup the protocol on your network. If TCP/IP is already functional on your network, no additional TCP/IP configuration is required to support the Autodesk License Manager. TCP/IP can coexist with IPX and NetBEUI protocols.

To determine if your network is using TCP/IP, start a DOS window and enter:

```
ping hostname
```

Where hostname is the network name of another computer on your network. If TCP/IP is running on both systems, you should get a response similar to:

```
C:\users\default>ping hostname

Pinging hostname [192.100.100.125] with 32 bytes
of data:

Reply from 192.100.100.125: bytes=32 time<10ms
TTL=255
Reply from 192.100.100.125: bytes=32 time<10ms
TTL=255
Reply from 192.100.100.125: bytes=32 time<10ms
TTL=255
Reply from 192.100.100.125: bytes=32 time<10ms
TTL=255
```

The above response indicates successful TCP/IP communication to the level that AdLM requires.

Note: This document applies to all Autodesk products based around the Autodesk License Manager (AdLM) technology. For simplicity, the document refers to, but is not limited to, AutoCAD Release 14.

What is TCP/IP?

TCP/IP is an acronym for Transmission Control Protocol / Internet Protocol. Simply stated, TCP/IP defines a method of delivering data between systems on a network. Each system in a TCP/IP network requires a unique IP address and hostname. In the ping example above, 192.100.100.125 is the IP address of an imaginary system named hostname.

Setting Up TCP/IP

Setup by a Network System Administrator

When possible, TCP/IP should be setup by the network system administrator. There are three main phases of the process. First, an IP address and hostname must be defined for each workstation. Next, the protocol must be loaded from the operating system distribution media (CD or diskettes). Finally, the TCP/IP protocol must be configured on each station.

IP address and hostname assignments may require coordination with your network administrator and/or your Internet provider. If you answer YES to any of the following bullet items, you should not proceed until you have checked with your network administrator and/or Internet provider.

- Your systems are connected to a large, corporate network.
- One or more of your systems has Internet (WEB) access.
- Your network is interconnected with other networks.
- Your network uses routers and/or bridges.

In summary, an arbitrary IP address scheme should only be attempted if your network is completely isolated and not under control of a department or individual responsible for network administration.

Your Own Setup

The following table is an example of an IP address and hostname scheme for a five system, isolated network.

IP Address	hostname
192.0.0.0	system_1
192.0.0.1	system_2
192.0.0.2	system_3
192.0.0.3	system_4
192.0.0.4	system_5

The IP addresses and hostnames used in the example above are arbitrary. It is important to understand, however, that all IP addresses on a network must be of the same class. Consult your operating system documentation regarding IP network address classes.

The steps required to load and configure TCP/IP vary with the operating system(s) that your systems may be running. Consult your operating system documentation regarding TCP/IP setup. Once setup is completed, test your installation with the TCP/IP "ping" command. Using the above network as an example, from system_1, open a DOS window and enter: **ping system_2**

You should receive a response similar to the example in the introduction of this document. Ping each system in your network. If every system returns a successful response, you are ready to setup the Autodesk License Manager. If ping fails to return a successful response from any system, revisit your operating system documentation or enlist the services of a network administrator.



Network and Client Installation and Startup Troubleshooting Guide

Summary: This document offers numerous suggestions for avoiding and troubleshooting installation and startup issues that may arise when installing or starting AutoCAD Release 14, AutoCAD Map Release 2.0, Mechanical Desktop Release 2.0 and AutoCAD LT97 from a Network or Client deployment image.

<u>Product(s)</u>	<u>Release(s)</u>	<u>Platform(s)</u>
AutoCAD ^(R)	R14	Win95, WinNT
AutoCAD LT ^(R) 97	4.0	Win95, WinNT
Mechanical Desktop	2.0	Win95, WinNT
AutoCAD Map ^(TM)	2.0	Win95, WinNT

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Overview

This document is arranged by AutoCAD Release 14 network issues divided into four basic categories: Setup, Deployment, License Management, and AutoCAD Execution. Within each category, a description of how things are designed to work is provided along with possible problems and their resolutions.

Note: *This document applies to all Autodesk products based around the Autodesk License Manager (AdLM) technology. For simplicity, the document refers to, but is not limited to, AutoCAD Release 14.*

Planning Your Work

The most effective method for avoiding problems in a networked environment is to carefully plan and organize before installing AutoCAD. The instructions and information in Chapter One of the AutoCAD Release 14 *Installation Guide* should be understood prior to attempting an AutoCAD Release 14 network roll-out.

The following data should be collected as part of your planning process and compared to the requirements listed in Chapter One of the *Installation Guide*:

- The number of concurrent AutoCAD users
- Typical drawing file sizes and where the data will be stored
- The location of the AutoCAD workstations (LAN or WAN)
- Workstation hardware configuration

- Workstation and server operating systems and versions
- File server location, performance, and capacity
- Network Protocols in use

Once this information has been collected and analyzed, you are ready to begin making decisions that will define how AutoCAD Release 14 on your network will be implemented. The following are key decisions that must be considered prior to implementing AutoCAD Release 14 on your network:

- Hardware, network, or operating system upgrades required to support desired AutoCAD Release 14 functionality.
- The location of the AutoCAD executable files (workstation, file server(s), or mixed).
- Microsoft TCP/IP Implementation (for the license manager), if not already in place.
- Which system(s) on the network will be your license server(s).
- Ascertaining whether access to AutoCAD licenses should be restricted on your network.

About the Windows System Registry

AutoCAD Release 14 stores most application and configuration data in the Windows system registry. In order to maintain the integrity of the registry, certain precautions should be taken when installing AutoCAD or any other application on your system.

- A safe, conservative approach is to back up your registry prior to installing or uninstalling any application. Consult your operating system documentation regarding the proper procedures for backing up and restoring the system registry.
- Never uninstall AutoCAD by manually deleting the program files. Use the Uninstall routine found in the AutoCAD program group or in the Add/Remove Programs Panel in Windows Control Panel. This policy should be applied for all Microsoft Windows 32-bit applications.
- To reset your AutoCAD registry settings, see "Resetting the System Registry" in Chapter One of the AutoCAD Release 14 *Installation Guide*.

- Manually making changes to the registry should be approached with EXTREME CAUTION! Never make registry changes without first performing a registry backup.

Network Setup Program

There is a special Setup program located in the \NETSETUP directory on the AutoCAD Release 14 CD. This will be referred to as the *Network Setup Program*. The setup program in the root directory of the AutoCAD Release 14 CD installs the Single User version of AutoCAD; this is the setup program that AutoPlay starts.

Never use the Setup program located in the root directory of the AutoCAD Release 14 CD to install the network version of AutoCAD. On systems that have AutoPlay enabled, the Single User Setup program starts when the AutoCAD Release 14 CD is mounted in the drive, and must be canceled prior to starting the Network Setup Program.

The purpose of the Network Setup Program is to create workstation installation templates, known as *deployments* in AutoCAD Release 14 terminology. The Network Setup Program is also used to install the Autodesk License Manager (AdLM) and its tools.

When running the Network Setup Program to create deployments, you must be logged onto the network with a user account that has Administrator rights on the file server(s) on which you intend to install deployments *and* on the workstation from which you run *setup.exe*. When installing AdLM, you must be logged into the system to become the license server as a user with Administrator rights on that system.

The following describes potential problems that can occur and their solutions:

The Setup program will not run.

<i>Cause</i>	<i>Setup.exe</i> is run on the wrong platform.
<i>Solution</i>	<i>Setup.exe</i> requires Windows 95 or Windows NT versions 3.51 or 4.0 running on an Intel 486 or better computer. Neither <i>setup.exe</i> or AutoCAD will run on RISC processor computers.

Setup fails after starting.

<i>Cause</i>	Insufficient permissions to either create directories or copy files to the network destination.
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<i>Solution</i>	You must log onto the network with Administrator rights on your file server to assure <i>setup.exe</i> has adequate file permissions.
<i>Cause</i>	A virus shield program is preventing <i>setup.exe</i> from copying files to the server.
<i>Solution</i>	All virus software should be temporarily disabled while running <i>setup.exe</i> .
<i>Cause</i>	A memory conflict occurred with another application.
<i>Solution</i>	Quit all other applications prior to starting <i>setup.exe</i> .
<i>Cause</i>	Inadequate disk resources on the file server.
<i>Solution</i>	Verify there is sufficient disk space on the destination file system(s).
<i>Cause</i>	Long file names.
<i>Solution</i>	Novell NetWare and certain other network software do not support long file names in the same manner as Microsoft. When installing deployments to non-Microsoft Windows 95 or Windows NT servers, the standard 8.3 naming convention may be required for the deployment destination path.
<i>Cause</i>	Maximum number of shares exceeded on the file server.
<i>Solution</i>	<i>Setup.exe</i> has a limitation that can cause it to fail if the destination file server has an excessive number of shares defined on it. The actual number of shares that will cause failure will vary depending on various system parameters; typically, it is between 15 and 35. If this limit is encountered, either reduce the number of shares, install to a different file server, or obtain a patch that will extend this limitation. This patch is found in the AutoCAD R14 File Libraries section at http://www.autodesk.com/support
<i>Cause</i>	Network compatibility problems.
<i>Solution</i>	It is possible that non-Microsoft network client software may return unexpected values when <i>setup.exe</i> makes system calls to the network to check file system status prior to copying files or creating directories. Non-Microsoft network users experiencing "Path not found" errors as <i>setup.exe</i> is running should contact their network vendor for possible client software revisions. Network vendor patches may also be posted to or linked at the AutoCAD R14 File Libraries section at: http://www.autodesk.com/support
<i>Cause</i>	Invalid system dates.
<i>Solution</i>	Invalid system dates or networks where servers and workstations are not time and date synchronized can cause various network and application errors.

Deployment

In AutoCAD Release 14 terminology, deployments are installation templates that contain all information and instructions required to set up AutoCAD on a workstation. A “deployment tree” refers to all of the files and directories that reside in the deployment directory on a file server. Each deployment tree contains a *setup.exe* program in its base directory; this is referred to as the *Deployment Setup Program*. The Deployment Setup Program is used to set up a workstation to run AutoCAD in a predefined manner. This type of process is commonly referred in the computer industry as *pull technology*. When the Deployment Setup Program is run on a workstation, the following tasks are performed:

- Necessary directories are created on the workstation.
- AutoCAD files are transferred from the file server to the workstation.
- System files are transferred from the file server to the workstation.
- An AutoCAD Release 14 icon is placed on the workstation’s desktop.
- A program group is built with various AutoCAD application icons placed in it.
- The workstation’s system registry is updated.

There are two types of AutoCAD Release 14 deployments: Network Deployments and Client Deployments. The deployment nomenclature refers to the location of the AutoCAD program files (also known as the *run tree*). A Network Deployment will set up a workstation so that the AutoCAD run tree will be accessed from a network file server. A Client Deployment will install a complete AutoCAD run tree on each workstation. Network Deployments are preferred at many sites because they conserve workstation disk space, and a centralized run tree facilitates easier update management. The advantage of Client Deployments is reduced network traffic resulting in faster workstation performance. Generally, Client Deployments are preferred where network utilization is high, or when network access is fundamentally slow, such as a dial-up connection.

For more information about the AutoCAD Release 14 deployment concept, visit the Autodesk Web site and navigate to the AutoCAD Release 14 Network Technical Document section at: <http://www.autodesk.com/support/techdocs>

The Deployment Setup Program will not run.

<i>Cause</i>	<i>Setup.exe</i> is run on the wrong platform.
<i>Solution</i>	<i>Setup.exe</i> requires Windows 95 or Windows NT versions 3.51 or 4.0 running on an Intel 486 or better computer. Neither <i>setup.exe</i> or AutoCAD will run on RISC processor computers.

The Deployment Setup Program fails after starting.

<i>Cause</i>	A virus shield program is preventing <i>setup.exe</i> from copying files to the server.
<i>Solution</i>	All virus software should be temporarily disabled while running <i>Setup.exe</i> .
<i>Cause</i>	A memory conflict occurred with another application.
<i>Solution</i>	Quit all other applications prior to starting <i>setup.exe</i> .
<i>Cause</i>	Network compatibility problems.
<i>Solution</i>	It is possible that non-Microsoft network client software may return Unexpected values when <i>setup.exe</i> makes system calls to the Network to check file system status prior to copying files or creating directories. Non-Microsoft network users experiencing “Path not found” errors while running <i>setup.exe</i> should contact their network vendors for possible client software revisions. Network vendor patches may also be posted to or linked the AutoCAD R14 File Libraries section at: http://www.autodesk.com/support
<i>Cause</i>	Insufficient permissions.
<i>Solution</i>	In order to successfully complete an installation of an AutoCAD Deployment on a workstation, you must log onto the system as a user with sufficient permissions to create directories, update Windows system files, and update the Windows system registry.

License Management

AutoCAD Release 14 uses the new Intel port of the Autodesk License Manager (AdLM). AdLM is a software-based TCP/IP dependent license management system. This means that no external authentication devices are required, and that Microsoft TCP/IP must be installed and configured on all AutoCAD Workstations and License Servers.

The AdLM will only run on Windows 95 or Windows NT. If you have a non-Microsoft Windows network file server, the AdLM must be run on a Windows 95 or Windows NT workstation.

Once the AdLM has been installed, the following steps *must* be performed in a specific order before it will be available to issue licenses to AutoCAD workstations.

1. Configure TCP/IP before proceeding.
2. Run the AdLM Admin to obtain a server code.
3. Contact Autodesk Customer Service or your reseller for a network authorization code.
4. Enter the network authorization code where indicated in the AdLM Admin dialog box.
5. Start Windows Control Panel, and double-click the AdLM icon to display the AdLM dialog box.
6. Select the Automatic Startup radio button.
7. Select the Launch button, then choose OK to dismiss the AdLM dialog box.
8. Quit Windows Control Panel.

The AdLM will be in a three minute diagnostic mode and then go online.

When the network version of AutoCAD R14 is started on a workstation, AutoCAD responds by first sending a broadcast to the local network segment to look for a license server with a free AutoCAD Release 14 license. If a license server is found, a license is checked out from the server, and AutoCAD will start on the workstation. If a license server resides in a different network segment from the workstation, the license server will not be found unless the ACADSERVER environment variable is set to include the license server's hostname on each AutoCAD workstation. A workstation may be restricted to pulling licenses from specific license servers by the prefix symbol @ to the hostname listed in the ACADSERVER value. Using the @ symbol effectively disables the broadcast method of finding a license server.

For detailed information about AdLM and its tools, refer to Chapter 3 of the AutoCAD Release 14 *Installation Guide*, and visit the Technical Solution and FAQ index on the Autodesk Web site at: <http://www.autodesk.com/support/techdocs>

The License Manager Service does not start.

<i>Cause</i>	The AdLM is being run on the wrong platform.
<i>Solution</i>	The AdLM requires Windows 95 or Windows NT versions 3.51 or 4.0 running on an Intel 486 or better computer. The

	AdLM will not run on a RISC processor computer.
<i>Cause</i>	Microsoft TCP/IP is not installed or is improperly configured.
<i>Solution</i>	The AdLM requires TCP/IP to operate. Verify the TCP/IP configuration by using the PING command at a DOS prompt.
<i>Cause</i>	The AdLM was not launched from its Windows Control Panel dialog box.
<i>Solution</i>	The AdLM must be launched manually the first time. Selecting the Automatic Startup radio button in the Control Panel dialog box is not sufficient. If the Automatic Startup radio button is selected, and the AdLM is manually launched the first time, the AdLM will restart automatically after each reboot.

The AdLM will not issue licenses for three minutes after startup.

<i>Cause</i>	The default diagnostic time setting for the AdLM is three minutes; it does not issue licenses during this time.
<i>Solution</i>	This is normal operation. While it is possible to set the diagnostic time to a shorter time period, Autodesk does not recommend it.

The AdLM is running but AutoCAD cannot find a license server.

<i>Cause</i>	TCP/IP name resolution is not configured.
<i>Solution</i>	Try using the PING command at a DOS prompt. The syntax of the PING command is <code>ping <hostname></code> . If you cannot Successfully "ping" the license server from an AutoCAD workstation and "ping" the workstation from the license server, the AdLM will not work. Name resolution may be accomplished in a variety of ways on a Microsoft TCP/IP network. The simplest method to provide name resolution is to create a hosts file with entries for all machines on the network, and copy it to the \WINNT\SYSTEM32\DRIVERS\ETC directory on Windows NT systems and to the WINDOWS directory on Windows 95 systems. Windows 95 and Windows NT come with a sample hosts file located in the proper destination directory for that operating system.
<i>Cause</i>	The system date and time are incorrect.
<i>Solution</i>	Verify that the date and time is correct on all computers, and that they are in sync with the AdLM station. The AdLM will not issue a license to a computer that has an invalid date.
<i>Cause</i>	The License Server is in a different subnet from the workstation.
<i>Solution</i>	Setting the ACADSERVER environment variable value to

	contain the hostname of the license server will allow AutoCAD to connect to a license server on another subnet. You can set ACADSERVER to multiple license servers by separating each hostname with a semicolon. Consult your operating system documentation on how to properly set an environment variable. The value of an environment variable can be confirmed by entering set more at a DOS prompt.
<i>Cause</i>	The Key Code was obtained prior to setting up TCP/IP.
<i>Solution</i>	A Server Code generated by the AdLM Admin program prior to TCP/IP setup will be invalid. Key Codes generated with invalid Server Codes will also be invalid. Regenerate the Server Code after TCP/IP configuration and obtain a new Key Code.
<i>Cause</i>	Microsoft File and Printer Sharing is not enabled. (Windows 95 only)
<i>Solution</i>	Microsoft File and Printer Sharing enables certain operating system features required for proper operation of the AdLM. Microsoft File and Printer Sharing can be enabled by adding the service in the Network Properties dialog box.
<i>Cause</i>	The ACADSERVER environment variable is set incorrectly.
<i>Solution</i>	The hostname value for the ACADSERVER variable is case sensitive. Characters such as "-" used for computer names during Microsoft network setup may be translated to other characters for TCP/IP convention compatibility. Check the DNS tab under Microsoft TCP/IP setup for the proper Hostname to use.
<i>Cause</i>	The "@" symbol prefix limits AutoCAD's license server search.
<i>Solution</i>	If the license server hostname is prefixed with an @ symbol (for example: @paradise), AutoCAD will only poll that license server for a license. You can specify a list of hosts names, each prefixed with @ and separated with a semicolon to create an exclusive group from which a workstation can pull licenses. For example, if ACADSERVER is set to @paradise; @island; @birdcage, AutoCAD will only be able to pull licenses from the AdLM servers running on paradise, island, or birdcage even if there are other AdLM servers running on the same subnet.
<i>Cause</i>	The AdLM server(s) is(are) out of licenses.
<i>Solution</i>	If all licenses authorized on an AdLM server are in use, it will

	not allow additional workstations to start AutoCAD. You can use AdLM Query or AdLM Report, both of which can be started from the Autodesk License Manager Program Group, to view license utilization on AdLM servers
<i>Cause</i>	A license resource file may be preventing a workstation or user from obtaining license access.
<i>Solution</i>	To check if a license resource file is in use for a particular AdLM server, double-click the AdLM icon in Windows Control Panel and choose the Settings button. If a license resource file is in use, the file name and path will be listed in the Settings dialog box. For detailed information on the AdLM resource file syntax and troubleshooting, see Technical Document number TD154044 (4044) <i>Controlling License Availability with the Network License Manager Resource File</i> in the AutoCAD R14 network section at: http://www.Autodesk.com/support/techdocs/
<i>Cause</i>	Network routers are not configured for TCP/IP.
<i>Solution</i>	Routers must be configured to route or bridge IP packets and pass udp/tcp port data. AdLM uses udp and tcp port number 1422. If routers are configured to route IP packets, the ACADSERVER environment variable setting is required on workstations residing on the remote side of the router.
<i>Cause</i>	The TCP/IP Gateway is not set.
<i>Solution</i>	If routers are used, their TCP/IP addresses must be entered as a Gateway in the IP ADDRESS Tab of the Microsoft Control Panel TCP/IP Setup dialog box on all workstations, file servers, and AdLM servers. If you cannot ping any systems on the remote side of a router, it is an indication that the router has not been entered as a gateway.
<i>Cause</i>	The server code has changed.
<i>Solution</i>	AdLM authorization codes are tied to the server code that is displayed when you run AdLM Admin. You must generate the server code on the machine that is the license server as the code will be unique to each machine. Hardware or network changes can cause the server code to change on a machine. If a new network card is installed or the system board is changed, check the server code for change. Updating the hostname or IP address of an AdLM server can also cause the server code to change. If the Server code changes, you must obtain a new Network Authorization Code from your AutoCAD dealer or Autodesk Customer Service, based on the new server code.

Executing AutoCAD

Once the AdLM is configured and a deployment is installed to a workstation, AutoCAD can be started by double-clicking the AutoCAD Release 14 icon placed on your desktop during the deployment installation. AutoCAD Release 14 will automatically configure itself on initial startup if it does not find a configuration file.

The icon created during deployment installation appends a /C startup parameter to the AutoCAD shortcut. This switch indicates a unique configuration file named *acad14.cfg*, located in the workstation's AutoCAD directory. The /C parameter may be modified or deleted as necessary, but it should be done with caution. Setting the /C parameter to a nonexistent directory, or to a configuration file from a previous version of AutoCAD will cause AutoCAD to fail to load. The ACADCFG or ACADCFGW system environment variables may be set instead of using a /C startup parameter. Setting an environment variable is recommended if you wish to double-click on drawing file names to start AutoCAD.

AutoCAD will not start.

<i>Cause</i>	AutoCAD is run on the wrong platform.
<i>Solution</i>	AutoCAD requires Windows 95 or Windows NT versions 3.51 or 4.0 running on an Intel 486 or better computer. AutoCAD will not run on a RISC processor computer.
<i>Cause</i>	Insufficient system resources to start AutoCAD.
<i>Solution</i>	Consult the AutoCAD Release 14 <i>Installation Guide</i> for RAM and swap file size requirements.
<i>Cause</i>	License Manager problems.
<i>Solution</i>	Consult the previous section of this document regarding license management issues.
<i>Cause</i>	Release 14 finds a configuration file from prior release of AutoCAD.
<i>Solution</i>	Use a /C startup parameter or ACADCFG and ACADCFGW Environment variables to point to the proper location and file name of your AutoCAD configuration file for Release 14.
<i>Cause</i>	A non-UNC path is contained in the AutoCAD Release 14 configuration file.
<i>Solution</i>	This problem may occur if AutoCAD is run for the first time on a network file server, and then on a workstation where a network deployment has been installed without using a /C startup parameter or setting ACADCFG and ACADCFGW. The solution is to delete the <i>acadr14.cfg</i> file located in the AutoCAD run tree, and restart AutoCAD from a workstation

prior to running AutoCAD on the file server. A configuration file containing UNC paths will be built, which will be valid on workstations and the file server.

<i>Cause</i>	"Fatal Error: Security system (hardware lock or network license) is not functioning or is improperly installed" error appears, or a dialog box with an application key appears. The dialog box prompts you for an Authorization Code on startup; this indicates that a license management problem exists, or that the hardware lock has not been found.
<i>Solution</i>	Power down the workstation, temporarily remove the hardware lock from the system, and reboot. Next, consult the previous section of this document to help diagnose and Resolve your license management problem. Once the license management problem is resolved, the workstation may be powered down, the hardware lock replaced, and the computer rebooted for normal operation.
<i>Cause</i>	The US English (unlocked) version of AutoCAD displays a dialog box prompting for an Authorization Code on startup, or one of the network setup wizard deployment options is "Configure for single user without License Management" appears. If this option is selected, a standalone deployment image will be created. This type of deployment image is intended for deploying the single user version to multiple machines from one central location. This type of installation does not use the AdLM, instead it requires an authorization code for each individual installation.
<i>Solution</i>	Uninstall AutoCAD, delete the deployment image, create a new client or network deployment, and reinstall AutoCAD.

Getting Help

You have easy access to many forms of help in setting up your AutoCAD network.

- Your AutoCAD reseller.

Your AutoCAD reseller or distributor has access to help them provide you with quality support when and where you need it. Your reseller may have a similar relationship with your hardware and network manufacturers.

- Autodesk Product Support Technical Documents.

The world wide Autodesk Product Support Team publishes technical documents based on feedback from callers. The documents may be accessed over the Internet at: <http://www.autodesk.com/support/techdocs>.

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- The Autodesk Web site.

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Installing AdLM to a Novell 4.1x Server in NDS Mode from a Windows 95 Client

Summary: This document provides a step-by-step guide for installing the IPX/SPX version of the Autodesk License Manager (AdLM) to a Novell server in NDS mode from a Windows 95 client.

<u>Product(s)</u>	<u>Release(s)</u>	<u>Platform(s)</u>
AutoCAD ^(R)	R14.01	Win95
AutoCAD LT ^(R) 97	4.0	Win95
Mechanical Desktop	2.0	Win95

Creation date:	Last revised:	Expires:
October 30, 1997	May 27, 1998	May 31, 1999

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Overview

This document is designed to walk you through the process of Installing, configuring, and loading the Autodesk License Manager (AdLM) on a Novell 4.11 server in NDS mode from a Windows 95 client.

What is covered in this document:

- Network Requirements
- Novell Client32 for Windows 95
- Step-by-step procedure for AdLM installation
- Installing the AdLM on a Novell Server
- Authorizing the AdLM
- IPX Server Settings

Note: This document applies to all Autodesk products based around the Autodesk License Manager (AdLM) technology. For simplicity, the document refers to, but is not limited to, AutoCAD Release 14.

Network Requirements

The network version of AutoCAD uses either the TCP/IP protocol or the IPX protocol to communicate with the Autodesk License Manager.

TCP/IP Requirements

The TCP/IP protocol must be installed and configured correctly on all workstations that will be running AutoCAD and the TCP/IP version of the Autodesk License Manager. The TCP/IP version of the Autodesk License Manager can only be run under Windows 95, NT3.51 (workstation and server), and NT4.0 (workstation and server).

IPX/SPX Requirements

The IPX protocol must be installed on all workstations running AutoCAD and the IPX/SPX version of the Autodesk License Manager.

Important! AutoCAD requires **Novell NetWare Client 32** support at this time. AutoCAD does not support Microsoft Client Service for NetWare. You must install NetWare Client32 support before installing AutoCAD.

The IPX version of the Autodesk License Manager is a NetWare Loadable Module (NLM) that can only be run from the server console. The Autodesk License Manager supports NetWare versions 3.12 and 4.x.

Network Compatibility

The License Manager in R14.01 has been updated from Elan version 4.1.3 to version 5.0.1c. The newer version of the License Manager now supports both TCP/IP and IPX protocols.

At this time, AutoCAD Map 2.0 does not currently support the newer License Manager. Map 2.0 will be updated in the future to support the newer version of the License Manager. If you are an AutoCAD Map 2.0

user, it is recommend that you wait until Map 2.0 is updated before updating to AutoCAD R14.01.

Other programs using Elan technology will be unaffected by newer version of the License Manager.

Novell Client32 for Windows 95

Install and configure Novell's IntranetWare Client for Windows 95 on the computer that is used to install the IPX based AdLM, and on all AutoCAD stations that will access this AdLM.

For information related to the IntranetWare Client for Windows 95, please visit the Novell Web site at the following location:

<http://www.novell.com/intranetware/products/clients/clientwin95/>

You will find information related to the Client32 for Windows 95, such as product overviews, white papers, FAQ's, technical support, and options to download Novell's Client for Windows 95.

Procedure for Installing the AdLM

Running the AutoCAD Network Setup Wizard

As in previous versions of AutoCAD Release 14 and related "flavors" of AutoCAD, you use the Network Setup Wizard to install the Autodesk License Manager and Network Deployments. However, one thing that has changed with R14.01 is that you now have to choose which network protocol you will use. Your options are TCP/IP and IPX. Perform these steps to install the AdLM:

1. Log in as a local administrator.
2. Insert the AutoCAD Release 14.01 CD in the CD-ROM drive. In Windows 95, AutoPlay will start the standalone installer if AutoCAD is not already installed on this machine. If AutoPlay starts, simply cancel the installation from the first screen that appears.
3. Browse to the \NETSETUP directory located off the root of the CD.
4. Run *setup.exe* from the \NETSETUP directory.

5. The first screen of the Network Setup Wizard is the Network Installation Selection. For simplicity sake, use the "Autodesk License Manager Installation Only" selection, then choose Next. You will see the License Manager Installation dialog box. In this box, select "Install both License Manager files and tools".
6. In the field for the "Location for the Autodesk License Manager utilities" the default directory C:\ADLM is displayed. We recommend you use the default location for these tools. (See Figure 1.)

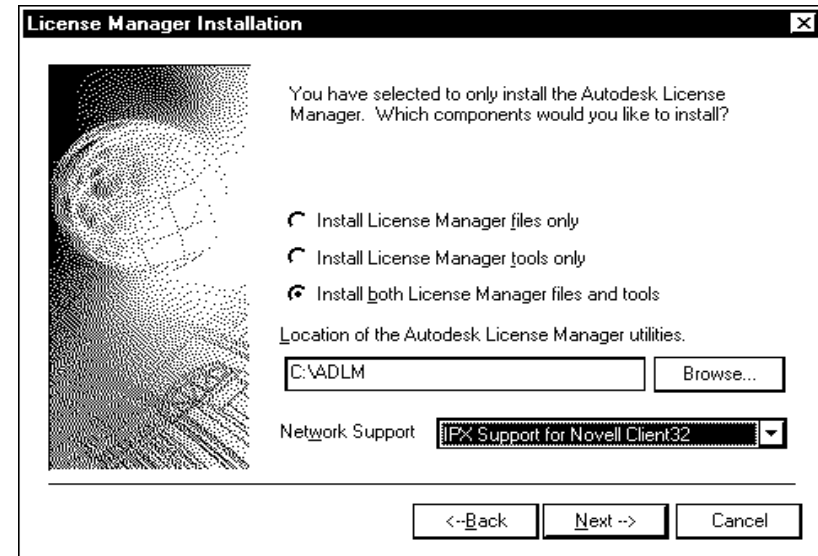


Figure 1

7. Notice there is a selection for Network Support. This is where you choose the network protocol. By default, TCP/IP Support is shown. Select the down arrow to drop the pull-down list for this field, and select "IPX support for Novell Client32". Choose Next to continue.
8. If there is not already a \ADLM directory on your local drive, then the Network Setup Wizard will prompt you to verify if you want it created. Answer Yes to create the directory.
9. The next screen is the Folder Name dialog box. This is the name of the Program Group that will be created on the Start button under Programs. By default, the name is "Autodesk License Manager". Enter a name, then choose Next to continue.

- The next screen is the Setup Confirmation where you can review the choices you made during the previous screens and verify the settings before you finalize the installation (see Figure 2). Before continuing, verify that IPX Support for Novell Client 32 is displayed as the current settings under Installation. Choose Next to continue.

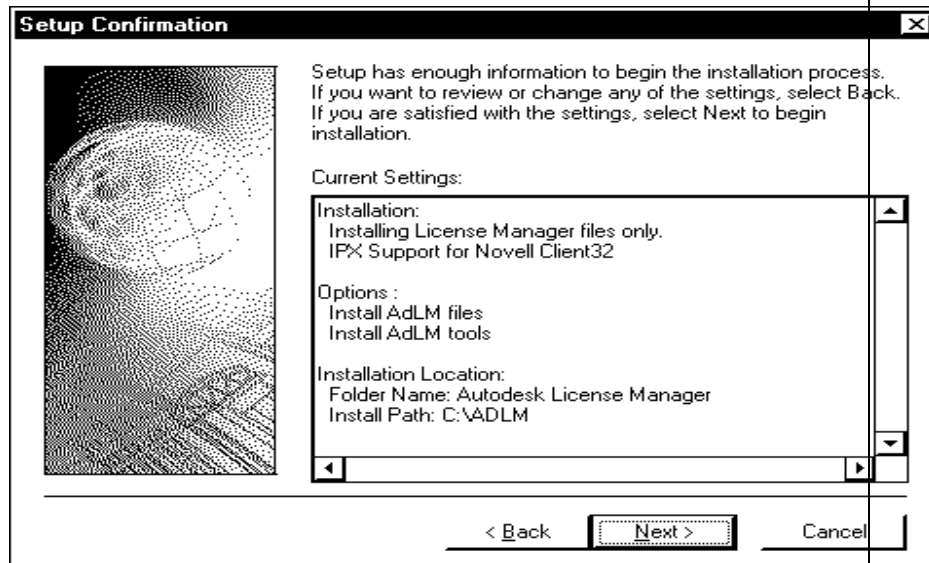


Figure 2

- After the files have been installed, the Setup Complete dialog box will display. Choose Finish. Once you have finished, the *readme.txt* will display. Please read this to familiarize yourself with any new information related to AutoCAD R14.

Continue to the next section *Installing the AdLM to a Novell Server*.

Installing the AdLM on a Novell Server

Important! The Network Setup Wizard does not automatically install the *adskelmd.nlm* to the Novell Server. You must manually install the License Manager on the Novell server. You must also be a network administrator with supervisor/administrator privileges on the Novell server in order to complete the following steps.

- Verify that the IPX version of the Autodesk License Manager has been installed to the local system by the Network Setup Wizard. The default location is C:\ADLM. You should be able to locate the *adskelmd.nlm* file in this location. If you cannot find it there, the TCP/IP version of AutoCAD has probably been installed. Re-run the Network Setup Wizard to install the IPX support for Novell Client32 version of the Autodesk License Manager.
- Using File Manager in Windows 95, map a drive letter to the SYS volume of a Novell server. For example, map SYS to the drive letter F.
- Copy the *adskelmd.nlm* file from C:\ADLM to the \SYSTEM directory on the SYS volume (for example, F:\SYSTEM).
- On the SYS volume, create the following directory structure: \ADLM\KEY and \ADLM\LOG.

Note: These directories should be created at the root of the SYS volume, not in the \SYSTEM directory.

- Authorize the Autodesk License Manager. See the section *Authorizing the License Manager on a Novell Server*.

Note: If you are installing AutoCAD on a Novell server from a workstation running Novell NetWare Client 32, you might need to change the destination folder to one that conforms to the 8.3 file name standard. Some versions of Novell NetWare Client 32 do not support long file names in the same manner as Microsoft, and cause the installation to fail if the 8.3 file name standard is not followed.

Continue to the next section *Authorizing the AdLM on a Novell Server*.

Authorizing the AdLM on a Novell Server

Before authorizing the License Manager, verify that a \KEY directory has been created and make a note of this directory. Refer to step #4 in the preceding section *Installing the AdLM on a Novell Server*.

1. From the machine you installed the License Manager, go to the Autodesk License Manager program group and select the AdLM Admin utility.
2. In the AdLM: IPX Create Floating License dialog box, enter the following for Key Directory and Host Name, then choose Add Host.

Key Directory: \\Novell_server_name\sys\adlm\key

Host Name: **Novell_server_name

**Replace Novell_server_name with the name of your
Novell server. The

AdLM Admin utility supplies the Server Code.

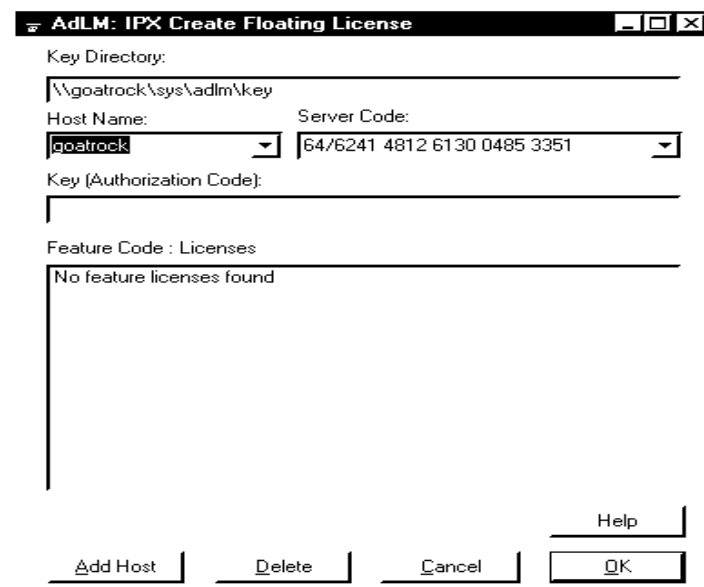


Figure 3

3. Make a note of your product serial number, server code, host name, and the number of licenses you have purchased.
4. Contact Autodesk to obtain a key code. The key code authorizes the License Manager.
5. You will be asked to provide the complete number displayed under Server Code. When you receive the authorization code, record the code and store it in a safe place.
6. Under Key, enter the complete key code (authorization code) that is provided to you when you contact the Autodesk Authorization Code department. (See the section *Obtaining an Authorization Code* at end of document.)
7. Choose OK to continue.

The AdLM Admin utility displays a Confirmation dialog box with the feature code for the product the key code was generated against and the number of licenses you purchased. It will also notify you that the License Manager key has been installed successfully, and where it is located. If you see a message that the License Manager key has not been installed successfully, make sure that you have entered the authorization code correctly. If you have, contact Autodesk to verify the code.

Important! It is important that when you contact the Authorization department that you specify which product you are authorizing. For example, AutoCAD will display the feature code 140. Other products, such as Mechanical Desktop 2.0, use multiple feature codes. MDT 2.0 will use two separate codes, AutoCAD requires code 140, and the MCAD extension requires code 190.

Continue to the next section *Starting the AdLM on a Novell Server*.

Starting the AdLM running on a Novell Server

The following is the procedure to start the Autodesk License Manager on the Novell server. You must be a network administrator with supervisor privileges on the Novell server in order to complete the following steps.

1. Use the NetWare utility RCONSOLE to gain access to the system console or go to the system console.
2. From the system console, enter the following:

```
load      adskelmd      -e      \adlm\key      -l
\adlm\log\adlm.log
```

Note: *The entire line must be entered in lowercase letters.*

3. An ADSKELMD screen displays the following information:

```
Autodesk License Manager - Copyright 1997
Élan Computer Group, Inc
```

```
ADSKELMD.NLM 5.0.1f started on <server name>
(address)
```

Review the contents of the following section *Changing IPX Server Settings*.

Changing IPX Server Settings

You can change a number of server settings by performing the following steps:

1. Make sure that no one is running a network copy of AutoCAD.
2. Use the NetWare utility RCONSOLE to gain access to the system console, or go to the system console.
3. From the system console, check if the *adskelmd.nlm* is already loaded. If it is, enter `unload adskelmd`
4. You can now reload the NLM using any of the following switches:

-e path	Path equals the location of the key directory
-i	Display version information
-l file	File equals the path and file name to save all information to log file
-m #	Set max log file size to #
-s #	Specify startup initialization in seconds
-v #	Set log file verbosity level to # between 1 and 9
-z #	Specify Zombie interval

The following line is an example of what you would enter to display information about the license manager: `load adskelmd -i`
If the -i switch is used, the License Manager will not actually be loaded. To load the license manager you must **not** use the -i switch.

The following example uses a key file located in the SYS volume in the directory \ADLM\KEY, creates an *adlm.log* file in the SYS volume in the directory \ADLM\LOG, and sets the startup initialization to 60 seconds:

```
load adskelmd -e \adlm\key -l \adlm\log\adlm.log -s 60
```

(The entire line must be entered in lowercase letters)



Installing AdLM to a Novell 4.1x Server

Summary: This document provides a step-by-step guide for installing the IPX/SPX version of the Autodesk License Manager (AdLM) to a Novell server in NDS mode from a Windows NT 4.0 client for AutoCAD Release 14, AutoCAD LT 97, and Mechanical Desktop.

<u>Product(s)</u>	<u>Release(s)</u>	<u>Platform(s)</u>
AutoCAD ^(R)	R14	WinNT
AutoCAD LT ^(R) 97	4.0	WinNT
Mechanical Desktop ^(TM)	2.0	WinNT

Creation date:	Last revised:	Expires:
October 30, 1997	May 15, 1998	May 31, 1999

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Overview

This document is designed to walk you through the process of Installing, configuring, and loading the Autodesk License Manager (AdLM) on a Novell 4.11 server in NDS mode from a Windows NT 4.0 client.

The following topics are covered in this document:

- Network Requirements
- Novell Client32 for Windows NT
- Step-by-step procedure for AdLM installation

- Installing the AdLM on a Novell Server
- Authorizing the AdLM
- IPX Server Settings

Note: This document applies to all Autodesk products based around the Autodesk License Manager (AdLM) technology. For simplicity, the document refers to, but is not limited to, AutoCAD Release 14.

Network Requirements

The network version of AutoCAD uses either the TCP/IP protocol or the IPX protocol to communicate with the Autodesk License Manager.

TCP/IP Requirements

The TCP/IP protocol must be installed and configured correctly on all workstations that will be running AutoCAD and the TCP/IP version of the Autodesk License Manager. The TCP/IP version of the Autodesk License Manager can only be run under Windows 95, NT3.51 (workstation and server), and NT4.0 (workstation and server).

IPX/SPX Requirements

The IPX protocol must be installed on all workstations running AutoCAD and the IPX/SPX version of the Autodesk License Manager.

Important! AutoCAD requires **Novell NetWare Client 32** support at this time. AutoCAD does not support Microsoft Client Service for NetWare. You must install NetWare Client32 support before installing AutoCAD.

The IPX version of the Autodesk License Manager is a NetWare Loadable Module (NLM) that can only be run from the server console. The Autodesk License Manager supports NetWare versions 3.12 and 4.x.

Network Compatibility

The License Manager in R14.01 has been updated from Elan version 4.1.3 to version 5.0.1c. The newer version of the License Manager now supports both TCP/IP and IPX protocols.

At this time, AutoCAD Map 2.0 does not currently support the newer License Manager. Map 2.0 will be updated in the future to support the newer version of the License Manager. If you are an AutoCAD Map 2.0 user, it is recommend that you wait until Map 2.0 is updated before updating to AutoCAD R14.01.

Other programs using Elan technology will be unaffected by newer version of the License Manager.

Novell Client32 for Windows NT

Install and configure Novell's IntranetWare Client for Windows NT on the computer that is used to install the IPX based AdLM, and on all AutoCAD stations that will access this AdLM.

For information related to the IntranetWare Client for Windows NT, please visit the Novell Web site at the following location:

<http://www.novell.com/intranetware/products/clients/clientwinnt>

You will find information related to the Client32 for Windows NT, such as product overviews, white papers, FAQs, technical support, and options to download Novell's Client for Windows NT.

Procedure for Installing the AdLM

Running the AutoCAD Network Setup Wizard

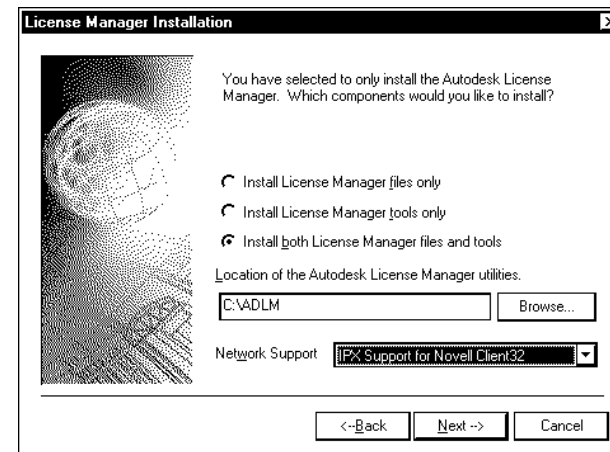
Like previous versions of AutoCAD Release 14 and related "flavors" of AutoCAD, you use the Network Setup Wizard to install the Autodesk License Manager and Network Deployments. However, one thing that has changed with R14.01 is that you now have to choose which network protocol you will use. Your options are TCP/IP and IPX. Perform these steps to install the AdLM:

1. Log in as a local administrator.

2. Insert the AutoCAD Release 14.01 CD in the CD-ROM drive. In Windows 95 and Windows NT 4.0, AutoPlay will start the standalone installer if AutoCAD is not already installed on this machine. If AutoPlay starts, simply cancel the installation from the first screen that appears.
3. Browse to the \NETSETUP directory located off the root of the CD.
4. Run *setup.exe* from the \NETSETUP directory.

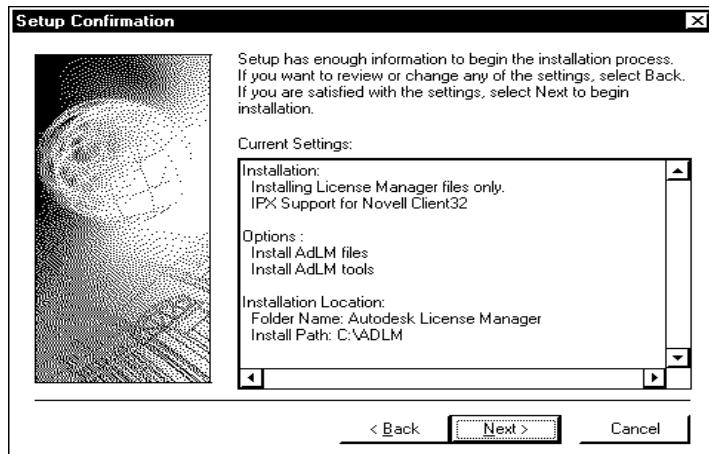
The first screen of the Network Setup Wizard is the Network Installation Selection. For simplicity sake, use the "Autodesk License Manager Installation Only" selection, then choose Next. You will see the License Manager Installation dialog box. In this box, select "Install both License Manager files and tools".

5. In the field for the "Location for the Autodesk License Manager utilities" the default directory C:\ADLM is displayed. We recommend you use the default location for these tools.



6. You will notice that there is now a selection for the Network Support. This is where you choose the network protocol you will be supporting. By default, TCP/IP Support is shown. Select the down arrow to drop the pull-down list for this field and select "IPX support for Novell Client32". Choose Next to continue.
7. If there is not already a \ADLM directory on your local drive, then the Network Setup Wizard will prompt you to verify if you want it created. Answer Yes to create the directory.

8. The next screen is the Folder Name dialog box. This is the name of the Program Group that will be created on the Start button under Programs (or under the Program Manager in NT 3.5x). By default, the name is "Autodesk License Manager". Select a name, then choose Next to continue.
9. The next screen is the Setup Confirmation. This is where you can review the choices you made during the previous screens and verify the settings before you finalize the installation. Before continuing, verify that IPX Support for Novell Client 32 is displayed under Installation for current settings. If that is what you have shown, choose Next to continue.



10. After the files have been installed, the Setup Complete dialog box will display. Choose Finish. Once you have finished, the *readme.txt* will display. Please read this to familiarize yourself with any new information related to AutoCAD R14.

Continue to the next section *Installing the AdLM to a Novell Server*.

Installing the AdLM on a Novell Server

Important! *Installing the adskelmd.nlm to the Novell Server is not an Automated task by the Network Setup Wizard. You must manually install the License Manager on the Novell server. You must be a network administrator with supervisor/administrator privileges on the Novell server in order to complete the following steps.*

1. Verify that the IPX version of the Autodesk License Manager has been installed to the local system by the Network Setup Wizard. The default location is C:\ADLM. You should be able to locate the *adskelmd.nlm* file in this location. If you do not, the TCP/IP version of AutoCAD has probably been installed. Re-run the Network Setup Wizard to install the IPX support for Novell Client32 version of the Autodesk License Manager.
2. Using File Manager in NT3.51 or Explorer in NT4.0 and Windows 95, map a drive letter to the SYS volume of a Novell server. For example, map SYS to the drive letter F.
3. Copy the *adskelmd.nlm* file from C:\ADLM to the \SYSTEM directory on the SYS volume (for example, F:\SYSTEM).
4. On the SYS volume, create the following directory structure: \ADLM\KEY and \ADLM\LOG.

Note that these directories should be created at the root of the SYS volume, not in the \SYSTEM directory.
5. Authorize the Autodesk License Manager. See the section *Authorizing the License Manager Using the IPX Protocol*.

Note: *If you are installing AutoCAD on a Novell server from a workstation running Novell NetWare Client 32, you might need to change the destination folder to one that conforms to the 8.3 file name standard. Some versions of Novell NetWare Client 32 do not support long file names in the same manner as Microsoft, and cause the installation to fail if the 8.3 file name standard is not followed.*

Continue to the next section *Authorizing the AdLM on a Novell Server*.

Authorizing the AdLM on a Novell Server

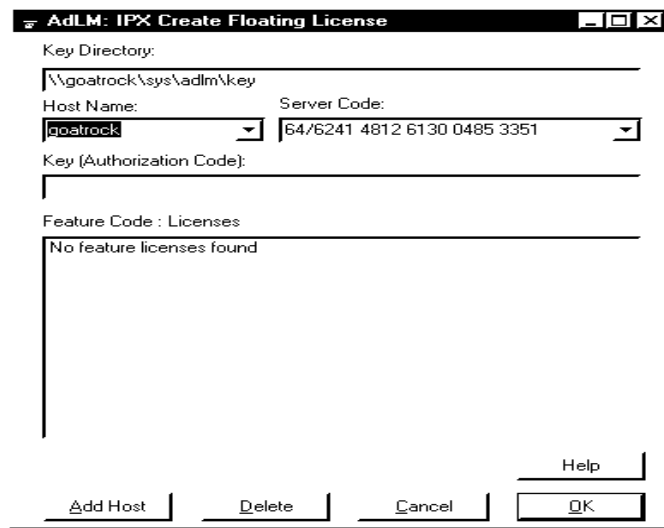
Before authorizing the License Manager, verify that a \KEY directory has been created and make a note of this directory. Refer to step #4 in the preceding section *Installing the AdLM on a Novell Server*.

1. From the machine you installed the License Manager from, go to the Autodesk License Manager program group and select the AdLM Admin utility.
2. In the AdLM: IPX Create Floating License dialog box, enter the following and choose Add Host.

Key Directory: \\Novell_server_name\sys\adlm\key

Host name: ****Novell_server_name**

****Replace Novell_server_name** with the name of your Novell server. The AdLM Admin utility supplies the Server Code.



3. Make a note of your product serial number, server code, host name, and the number of licenses you have purchased.
4. Contact Autodesk to obtain a key code. The key code authorizes the License Manager.
You will be asked to provide the complete number displayed under Server Code. When you receive the authorization code, record the code and store it in a safe place.
5. Under Key, enter the complete key code (authorization code) that is provided to you when you contact the Autodesk Authorization Code department. (See the section *Obtaining an Authorization Code* at end of document.)
6. Choose OK to continue.

The AdLM Admin utility displays a Confirmation dialog box with the feature code for the product the key code was generated against and the number of licenses you purchased. It will also notify you that the License Manager key has been installed successfully and where it is located. If you see a message that the License Manager key has not been installed

successfully, make sure that you have entered the authorization code correctly. If you have, contact Autodesk to verify the code.

Important! It is important that when you contact the Authorization department, you specify which product you are authorizing. For example, AutoCAD will display the feature code 140. Other products, such as Mechanical Desktop 2.0, use multiple feature codes. MDT 2.0 will use two separate codes, AutoCAD requires code 140, and the MCAD extension requires code 190.

Continue to the next section *Starting the AdLM on a Novell Server*.

Starting the AdLM running on a Novell Server

The following is the procedure to start the Autodesk License Manager on the Novell server. You must be a network administrator with supervisor privileges on the Novell server in order to complete the following steps.

1. Use the NetWare utility RCONSOLE to gain access to the system console or go to the system console.
2. From the system console, enter the following:

```
load      adskelmd      -e      \adlm\key      -1
\adlm\log\adlm.log
```

Note: The entire line must be entered in lowercase letters.

An ADSKELMD screen displays the following information:

```
Autodesk License Manager - Copyright 1997 Élan
Computer Group, Inc
ADSKELMD.NLM 5.0.1f started on <server name>
(address)
```

Review the contents of the following section *Changing IPX Server Settings*.

Changing IPX Server Settings

You can change a number of server settings by performing the following steps:

1. Make sure that no one is running a network copy of AutoCAD.
2. Use the NetWare utility RCONSOLE to gain access to the system console, or go to the system console.
3. From the system console, check if the *adskelmd.nlm* is already loaded. If it is, enter `unload adskelmd`
4. You can now reload the NLM using any of the following switches:

-e path Path equals the location of the key directory
-i Display version information
-l file File equals the path and file name to save all
 information to log file
-m # Set max log file size to #
-s # Specify startup initialization in seconds
-v # Set log file verbosity level to # between 1 and 9
-z # Specify Zombie interval

The following line is an example of how you would display information about the license manager: `load adskelmd -i`

If the -i switch is used, the License Manager will not actually be loaded. To load the license manager you must **not** use the -i switch.

The following example uses a key file located in the SYS volume in the directory \ADLM\KEY, creates an *adlm.log* file in the SYS volume in the directory \ADLM\LOG, and sets the startup initialization to 60 seconds:

```
load adskelmd -e \adlm\key -l \adlm\log\adlm.log -s 60
```

Note: *The entire line must be entered in lower case letters.*
