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**Contents**

**Scope and Assumptions.....3**  
**Process Overview,  
Conventions, Other  
Documentation .....3**  
    High level process overview.....3  
    Conventions .....4  
    References to Microsoft  
    Documentation.....4  
**Hard Drive and Hardware  
Preparation.....4**  
**Distribution Share Setup.....5**  
**Service Pack 3 .....5**  
    Service Pack 3 Required  
    Modifications .....5  
**Machine-Specific Information.....6**  
**Integrating Video Drivers .....6**  
    Installing S3 M5 Drivers .....7  
    Installing C & T Drivers .....7  
    Installing ATI Rage LT Pro  
    Drivers.....7  
**Integrating NIC and Modem  
Drivers .....8**  
    Installing Compaq Netflex-3  
    Ethernet Drivers .....8  
    Installing Compaq  
    560CL/56VL Modem Driver  
    V.90 Upgrade .....8  
    Installing Xircom Combo  
    Card Driver.....9  
    Integrating ESS Audio  
    Drivers.....10  
**Installing Compaq Software .....11**  
    Installing System  
    Enhancements .....11  
    Installing Security 32.....11  
    Installing Multibay Driver .....11  
    Installing Power  
    Management .....12  
    Installing Manageability  
    Agents.....12  
    Installing CardWare .....12  
**Appendix A - Unattended  
Setup Environment.....14**  
**Appendix B -  
UNATTEND.TXT .....16**  
**Appendix C - CMDLINES.TXT ...17**

# Compaq Guide to PC Deployment

## Network Installation of Microsoft Windows NT Workstation 4.0 on Compaq Armada Series of Personal Computers Using Microsoft Tools

**Abstract:** With the surge of Microsoft Windows NT Workstation to the forefront of the corporate computing industry, it has become an ongoing challenge for Information Systems professionals to ascertain a unified method of deploying the operating system, hardware-specific device drivers and value-added software applications.

This paper provides a solution to the problem of creating an initial corporate deployment image that is both customizable and consistent. It describes the procedure for setting up and initiating an unattended network installation of Windows NT Workstation 4.0 on Compaq Armada Series of Personal Computers.

This paper and other relevant documents may be located at  
<http://www.compaq.com/solutions/pcsolutions/deployment/wp.html>

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## Scope and Assumptions

This Guide provides the following information:

- PC Deployment Process overview
- Distribution Share setup for Windows NT Workstation 4.0, including:
  - Operating System specific configuration
  - Hardware specific configuration
  - Value-add software configuration
- Overview of the unattended installation environment for Windows NT Workstation 4.0
- Sample UNATTEND.TXT document
- Sample CMDLINES.TXT document
- Sample TXTSETUP.OEM document

The following assumptions are made in this paper:

- You understand how to create a network boot diskette used to access the Microsoft Windows NT Workstation 4.0 distribution share. (Refer to the Compaq Guide to PC Deployment white paper entitled, "Network Installation of Microsoft Windows on Compaq Armada Series of Personal Computers Using the Multi-NIC Boot Utility," located on the Compaq Web site at <http://www.compaq.com/solutions/pcsolutions/deployment/wp.html>)
- You understand or can locate information on how to configure the non-hardware specific portions of Microsoft Windows NT Workstation 4.0 for your specific installation (i.e., networking configuration, optional components, etc.)
- You know what hardware must be supported.
- You can access the Web and download the appropriate SoftPAQs containing the device driver software from <http://www.compaq.com/support/files/portables/us/index.html>. Instructions for downloading and extracting SoftPAQs are provided at <http://www.compaq.com/support/files/portables/us/index.html>.
- The deployment team has access to the *Microsoft Windows NT Workstation 4.0 Resource Kit*.
- Each client computer has a licensed copy of Windows NT Workstation 4.0, including either Service Pack 3 or Service Pack 4.

## Process Overview, Conventions, Other Documentation

### High level process overview

The following steps outline the network installation process:

1. Copy the Windows NT Workstation 4.0 operating system and associated Service Pack to a designated location on the server.
2. Create the unattended setup directory structure (*shown in Appendix A*).
3. Download the appropriate SoftPAQs and run them to extract device drivers into the correct folders (see hardware component sections of this white paper for more detailed information).

4. Modify the UNATTEND.TXT file as required.
5. Set up a network share for the operating system, device drivers, and other software to be installed.
6. Boot client computer to the shared network directory.
7. Perform a Remote ROM Flash (optional). Refer to Appendix E for more details.
8. Install the operating system, device drivers, and other software from the network.

## Conventions

*Distribution share* refers to the combination of the operating system and all value-add software in a centralized location.

*Servename* refers to the name of the server containing the distribution share.

*Sharename* refers to the name of the share established for accessing the distribution share on the server.

## References to Microsoft Documentation

Use the following resources to help you deploy Microsoft Windows NT Workstation 4.0 on Compaq Armada Series client systems:

- The *Microsoft Windows NT Workstation 4.0 Resource Kit*. This is very useful for understanding the deployment strategies described in this paper. It gives specific information on the options used to automate the installation of Windows NT Workstation 4.0.
- Microsoft's Knowledge Base, located on the Web at <http://support.microsoft.com/support>, contains articles describing known installation issues and solutions.
- Microsoft Windows NT Workstation Deployment Resource documents, located at <http://www.microsoft.com/NTworkstation/Deployment/deployment/default.asp>.

## Hard Drive and Hardware Preparation

You should make file system decisions **before** installing the operating system. Microsoft Windows NT Workstation 4.0 supports both FAT16 and NTFS.

**NOTE:** FAT32 is currently not supported by NT Workstation 4.0.

Ensure that all factory-installed Compaq hardware is properly connected in each target computer. Refer to the Guide to Features and Upgrades included with the Compaq Armada Series of computers if you have any questions regarding how the hardware is installed in the system.

## Distribution Share Setup

Copy the entire \I386 directory and its subdirectories from the Windows NT Workstation 4.0 CD to the hard disk of the server from which Windows NT will be installed. Some modifications may need to be made to the distribution directory because not all target systems will require every directory of a distribution directory structure. Use the following command to invoke the installation process:

```
WINNT /U:\\servername\sharename\I386\soem$\UNATTEND.TXT [/B] /S:\\servername\sharename\I386
```

Where

**/U** refers to an unattended installation using an optional script file (requires /s), and **/B** [optional] refers to an operation that does not utilize diskettes (requires /s), and **/S[:]\servername\sharename** refers to the source location of the Windows NT files. For example:

```
WINNT /u:n:\nt4\I386\soem$\UNATTEND.TXT /b /s:n:\nt4\I
```

## Service Pack 3

To add the files from the Service Pack 3 release to the unattended installation, complete the following steps:

1. Copy the entire \I386 directory from the Windows NT Workstation Service Pack 3 Update CD onto the distribution share.

---

**NOTE:** Since an \I386 folder already exists on the distribution share, you may want to create a new folder for these files (e.g., \SP3).

---

2. Move the \SP3 directory into the \\servername\sharename\I386\soem\$\drive\_letter directory. This will copy this folder down to the local hard drive during the installation process and it will remain there following setup.

---

**NOTE:** You must reinstall Service Pack 3 after adding new hardware components or changing system software.

---

3. Insert the following line in CMDLINES.TXT:

```
[Commands]  
"c:\sp3\I386\update -u -q -z"
```

## Service Pack 3 Required Modifications

### PCMCIA.SYS

In order for the Xircom Combo NIC/Modem to be detected and installed successfully, the PCMCIA.SYS file that currently resides in the \\servername\sharename\I386 directory needs to be replaced with the newer version of PCMCIA.SYS from Windows NT Service Pack 3 (applies to the Armada 6500 series only).

## HAL.DLL

In order for any AGP video graphics cards to be detected and installed successfully, HAL.DLL needs to be copied from Windows NT Workstation Service Pack 3 to the `\\servername\sharename\I386` directory. The HAL.DL\_ file that currently resides in the `\\servername\sharename\I386` directory should either be renamed (e.g., HAL.OLD) or deleted to avoid any conflicts during installation.

## UPDATE.INF

Since the Service Pack is installed after the operating system, it over-writes some of the SoftPAQ files that are installed during operating system installation. Some changes need to be made to the UPDATE.INF file that resides in the \I386 folder of the Service Pack. All references to the following need to be commented out.

```
AIC78xx.SYS
AIC78xx.SYS = 1
ATI.DLL
ATI.DLL = 1
ATI.SYS
ATI.SYS = 1
NETFLX3.SYS
NETFLX3.SYS = 1
```

For example, change:

```
AIC78xx.SYS
to:
;AIC78xx.SYS
```

## Machine-Specific Information

There are no machine-specific items to configure for Windows NT Workstation 4.0.

## Integrating Video Drivers

To install third-party display drivers needed during unattended installation, populate the [Display] section of the UNATTEND.TXT file with the information provided below for the selected video cards. Using the InstallDriver, InfFile and InfOption variables will only work with video cards that can be detected by the operating system during setup. For video cards that are not detectable, refer to the Guide to Automating Windows NT Setup and the Deployment Guide found on the Microsoft web site. The [DisplayDrivers] section is used to install the Standard VGA option if all of the other drivers fail. Following is an example of the [Display] section:

```
[Display]
BitsPerPel = 8
XResolution = 640
YResolution = 480
VRefresh = 60
AutoConfirm = 1
InstallDriver=1
InfFile = "S3VIRGE.INF"
InfOption = "S3 Incorporated Display Driver v3.25.22 Engineering Release"
```

**[DisplayDrivers]**

"Standard VGA (640x480, 16 colors)"="RETAIL"

General setup for installation of 3<sup>rd</sup> party video drivers on the Compaq Armada Series is as follows:

1. Create a [\\servername\sharename\I386\%\\$OEM%\Display](#) folder.
2. Extract the video drivers SoftPAQ to a temporary directory.
3. Copy all video driver files from the temporary directory to the [\\servername\sharename\I386\%\\$OEM%\Display](#) folder created in step 1.

## Installing S3 M5 Drivers

Add the following lines to the UNATTEND.TXT file:

```
[Display]
BitsPerPel = 8
XResolution = 1024
YResolution = 768
VRefresh = 60
AutoConfirm = 1
InstallDriver = 1
InfFile = "S3VIRGE.INF"
InfOption = "S3 Incorporated Display Driver v3.25.22 Engineering Release"
```

## Installing C & T Drivers

Add the following lines to the UNATTEND.TXT:

```
[Display]
BitsPerPel = 8
XResolution = 1024
YResolution = 768
VRefresh = 60
AutoConfirm = 1
InstallDriver = 1
InfFile = "OEMSETUP.INF"
InfOption = "Compaq Laptops (69000 65555)"
```

## Installing ATI Rage LT Pro Drivers

1. Verify that HAL.DLL has been copied to the \I386\ directory and that UPDATE.INF has been correctly modified. (Refer to "Service Pack 3 Required Modifications" above.)
2. Add the following lines to the UNATTEND.TXT:

```
[Display]
BitsPerPel = 8
```

```
XResolution = 1024
YResolution = 768
VRefresh = 60
AutoConfirm = 1
InstallDriver = 1
InfFile = "ATIRAGE.INF"
InfOption = "ATI 3D RAGE LT PRO AGP 2X"
```

## Integrating NIC and Modem Drivers

### Installing Compaq Netflex-3 Ethernet Drivers

1. Delete all files in the [\\servername\sharename\I386\drvlib\nic\netflx3](#) directory.
2. Extract the Netflex-3 Ethernet driver SoftPAQ to a temporary directory.
3. Copy all the files from the SoftPAQ's DISK2\NDIS4 folder to [\\servername\sharename\I386\drvlib\nic\netflx3](#) directory.
4. Add the following lines to the UNATTEND.TXT:

```
[OEM_Ads]
SetupNetwork = "yes"

[Network]
DetectAdapters = ""
InstallProtocols = ProtocolsSection
JoinWorkgroup = WORKGROUP

[ProtocolsSection]
NBF = NetBEUI_Parameters
TC = TCPIP_Parameters

[NetBEUI_Parameters]

[TCPIP_Parameters]
DHCP = yes
```

### Installing Compaq 560CL/56VL Modem Driver V.90 Upgrade

1. Create the [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder.
2. Extract the Compaq 560CL/56VL Modem Driver V.90 Upgrade SoftPAQ temporary directory.
3. Copy the folders HELP and NT40 from the temporary directory to [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder.

(e.g., [\\servername\sharename\I386\Soem\\$\c\Modem\HELP](#)  
[\\servername\sharename\I386\Soem\\$\c\Modem\NT40](#))

4. Add the following lines to the CMDLINES.TXT:

[Commands]

"c:\Modem\NT40\setup -N -HOMECOUNTRY=US -S"

## Installing Xircom Combo Card Driver

1. Verify that the PCMCIA.SYS has been copied to \I386 directory. (Refer to "Service Pack 3 Required Modifications" above.)
2. Create the [\\servername\sharename\I386\%oem%\NET\CEM56\NT40](#) folder.
3. Extract the Xircom Combo Ethernet/Modem Driver SoftPAQ to a temporary directory. (Refer to file READUNAT.TXT under \DISK1\NT40 directory for more info on unattended installation of Xircom Combo Ethernet/Modem Driver.)
4. Copy the following files from the \DISK1 folder in the temporary directory to [\\servername\sharename\I386\%oem%\NET\CEM56](#) directory:

CEM56.DLL  
CEM56.SYS  
CTL3DV2.DL\_  
MDMCEM56.INF  
MDMTESTW.EX\_  
OEMSETNT.INF  
README.TXT  
TELSEL.EX\_  
XCEMTEST.EX\_  
XREG3.DA\_  
XREG3.EX\_  
XREGQUES.DA\_

5. Copy MDMCEM56.INF from the [\\servername\sharename\I386\%oem%\NET\CEM56](#) directory to the [\\servername\sharename\I386](#) and [\\servername\sharename\I386\%oem%\NET\CEM56\NT40](#) directories.
6. Open the [\\servername\sharename\I386\DOSNET.INF](#) file with a text editor and add the following entry under the [Files] section:

[Files]  
d1,mdmcm56.inf

7. Open the [\\servername\sharename\I386\TXTSETUP.SIF](#) file with a text editor and add the following entries under the [SourceDisksFiles] and [SourceDisksFiles.x86] sections:

[SourceDisksFiles]  
mdmcm56.inf = 1,,,,,,20,0,0

[SourceDisksFiles.x86]  
mdmcm56.inf = 1,,,,,,20,0,0

8. Rename [\\servername\sharename\I386\%oem%\NET\CEM56\OEMSETNT.INF](#) to [\\servername\sharename\I386\%oem%\NET\CEM56\OEMSETUP.INF](#)

9. Add the following lines to the UNATTEND.TXT:

```
[OEM_Ads]
SetupNetwork = "yes"

[Network]
InstallAdapters = SelectedAdaptersSection
InstallProtocols = ProtocolsSection
InstallServices = ServicesSection
JoinWorkgroup = WORKGROUP

[SelectedAdaptersSection]
CEM56 = OEMAdapterParamSection, \${oem$\net\CEM56

[OEMAdapterParamSection]

[ProtocolsSection]
NBF = NetBEUI_Parameters
TC = TCPIP_Parameters

[NetBEUI_Parameters]

[TCPIP_Parameters]
DHCP = yes

[ServicesSection]
RAS = RASParameterSection

[RASParameterSection]
DialoutProtocols = TCP/IP
DialinProtocols = TCP/IP
PortSections = PortSectionParameters

[PortSectionParameters]
PortName = COM2
DeviceType = Modem
PortUsage = DialinOut
Device = "Modem of Xircom CreditCard 100+56"

[Modem]
InstallModem = ModemParametersSection

[ModemParametersSection]
COM2 = "Modem Of Xircom CreditCard 100+56"
```

## Integrating ESS Audio Drivers

1. Create the [\\servername\sharename\I386\\\${oem\\$\drive\\_letter\folder\\_name}](#) folder.
2. Extract the ESS audio driver SoftPAQ to a temporary directory.
3. Copy the \DISK1 folder from the temporary directory to [\\servername\sharename\I386\\\${oem\\$\drive\\_letter\folder\\_name}](#) folder (e.g., [\\servername\sharename\I386\\\${oem\\$\c\ESS\DISK1}](#)).
4. Copy the file CHANGE.REG from the folder [\\servername\sharename\I386\\\${oem\\$\c\ESS\DISK1}](#) to [\\servername\sharename\I386\\\${oem\\$}](#) directory.

5. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\ESS\DISK1\setup -s"
```

## Installing Compaq Software

### Installing System Enhancements

1. Create a [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder.
2. Extract the System Enhancements SoftPAQ obtained to a temporary directory.
3. Copy the \DISK1 folder from the temporary directory to [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) (e.g., [\\servername\sharename\I386\Soem\\$\c\ENHNT\DISK1](#)).
4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\ENHNT\DISK1\setup -s"
```

### Installing Security 32

1. Create a [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder.
2. Extract the Security 32 Support SoftPAQ to a temporary directory.
3. Copy the \DISK1 folder from the temporary directory to the [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder (e.g., [\\servername\sharename\I386\Soem\\$\c\SEC32\DISK1](#)).
4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\SEC32\DISK1\setup -s"
```

### Installing Multibay Driver

1. Create [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder.
2. Extract the Multibay Driver SoftPAQ to a temporary directory.
3. Copy the folder \DISK1 from the temporary directory to the [\\servername\sharename\I386\Soem\\$\drive\\_letter\folder\\_name](#) folder (e.g., [\\servername\sharename\I386\Soem\\$\c\MULTBAY\DISK1](#)).

4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\MULTBAY\DISK1\setup -s"
```

## Installing Power Management

1. Create a [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder.
2. Extract the Power Management SoftPAQ to a temporary directory.
3. Copy the folder \DISK1 from the temporary directory to the [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder (e.g., [\\servername\sharename\I386\%oem%\c\POWER\DISK1](#)).
4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\POWER\DISK1\setup -s"
```

## Installing Manageability Agents

1. Create a [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder.
2. Extract the Manageability Agents SoftPAQ to a temporary directory.
3. Copy the folders \DISK1, \DISK2, and \DISK3 from the temporary directory to the [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder (e.g., [\\servername\sharename\I386\%oem%\c\IM\DISK1](#)  
[\\servername\sharename\I386\%oem%\c\IM\DISK2](#)  
[\\servername\sharename\I386\%oem%\c\IM\DISK3](#)).
4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\IM\DISK1\setup -PREINST -S"
```

## Installing CardWare

1. Create the [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder.
2. Extract the CardWare SoftPAQ to a temporary directory.
3. Copy the folders \DISK1, \DISK2, and \DISK3 from the temporary directory to [\\servername\sharename\I386\%oem%\drive\\_letter\folder\\_name](#) folder (e.g., [\\servername\sharename\I386\%oem%\c\CWARE\DISK1](#)  
[\\servername\sharename\I386\%oem%\c\CWARE\DISK2](#)  
[\\servername\sharename\I386\%oem%\c\CWARE\DISK3](#)).

4. Add the following lines to the CMDLINES.TXT:

```
[Commands]
"c:\CWARE\DISK1\setup SILENT"
```

---

**Note:** This will successfully install the CardWare driver; However, CardWare's install program will cause the system to freeze if a PC card is in the PCMCIA slot during installation. The following are instructions on how to install the CardWare driver **with** a PC card in the PCMCIA slot during NT unattended setup. This will install the CardWare driver **after** NT setup is complete and the system is rebooted. Also, an extra reboot is needed after the CardWare driver has been installed to activate CardWare.

1. Using a text editor, create a .REG file (e.g., CWARE.REG.) and save this file in the [\\servername\sharename\I386\Soem\\$](#) directory. Also copy the file REGEDIT.EXE to the same directory. A copy of this file can be found in the root directory (i.e. c:\winnt) on any machine currently running Windows NT. The following is the information that needs to be entered into the .REG file:

```
REGEDIT4

[HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\Tips]
"DisplayInitialTipWindow"=dword:00000000
"Show"=hex:01,00,00,00
"Next"=hex:03,00

[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Pcmcia]
"Start"=dword:00000004

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce]
"CWARE"="C:\CWARE\DISK1\SETUP.EXE SILENT"
```

2. Replace the lines adding to the CMDLINES.TXT in step#4 above with the following lines:

```
[Commands]
".\regedit /s .\cware.reg"
```

---

## Appendix A - Unattended Setup Environment

To install Windows NT Workstation 4.0 on multiple computers across a network, a Distribution Share directory needs to be created. Distribution directories are the central location of all files needed for a network install, including all Original Equipment Manufacturer (OEM) additions. Following is an example of the directory structure of a Distribution Share:

```

\1386
  \soem$
    \Textmode
      \$$
        \NET
          \drive_letter
            \Display
  
```

### Distribution Directory Structure

#### *\$oem\$*

This directory contains the subdirectories needed to support an unattended installation of applications, drivers, etc. not included on the Windows NT retail CD. This directory can also include the optional file CMDLINES.TXT, which contains a list of commands to be run during GUI Mode Setup. (Refer to the Windows NT Workstation 4.0 Resource Kit for detailed information).

#### *\$oem\$\Textmode*

This directory contains the hardware-dependent files needed during the Text Mode portion of the Windows NT install. The files for SCSI, Keyboard, Video or Pointing Device Drivers or HALs that are not included with Windows NT retail version must appear in this directory. This directory should also contain a standard TXTSETUP.OEM file. This file contains pointers to all the files required to install these components. Only one TXTSETUP.OEM file can exist in this directory.

**NOTE:** TXTSETUP.OEM and all files listed in it (HALs and drivers) must also be listed in the [OEMBootFiles] section of the UNATTEND.TXT file.

#### *\$oem\$\\$\$*

This directory contains the system files, either new or replacements for retail files, that are copied to the various subdirectories when Windows NT is installed. The structure of this directory must match the structure of a standard Windows NT installation, where *\$oem\$\\$\$* matches *%Windir%*, *\$oem\$\\$\$\System32* matches *%Windir%\System32*, and so on. For example:

```
\1386\soem$\$$\system32\drivers\myscsi.sys
```

would be copied to:

```
Winnt\system32\drivers\myscsi.sys
```

#### *\$oem\$\net*

This directory contains only subdirectories, each of which contains the files for a particular OEM network component such as network cards, services and protocols.

***\$oem\$\drive\_letter***

This directory contains a subdirectory structure that is copied during Text Mode Setup to the root of the corresponding drive in the target computer. Any subdirectory of this directory will be copied to local (destination) hard drive and will remain there following the setup process.

***\$oem\$\Display***

This directory contains all the files needed to install display drivers, including any .inf files.

**NOTE:** Modifications need to be made to the [DisplayDrivers] section and, for 3<sup>rd</sup> party drivers, the [Display] section of UNATTEND.TXT for this to function properly.

**Using an Answer File (UNATTEND.TXT)**

Answer files are text files that automate user responses to questions during the installation process. The answer file is specified with the **/U:<answer file>** option with the **winnt** or **winnt32** command. Any legal file name can be used for an answer file in place of UNATTEND.TXT. An answer file can be created by editing a copy of the UNATTEND.TXT included on both the Windows NT Workstation 4.0 and the Windows NT Workstation 4.0 Resource Kit. Refer to the Resource Kit for more information on creating an answer file.

**Using CMDLINES.TXT**

This file resides in the \$OEM\$ directory and is used for installing files included in the \$OEM\$ subdirectories, including those directories copied down to the local hard drive. By listing the installation command within the CMDLINES.TXT file, the files will get installed automatically at the end of the Setup process.

---

**IMPORTANT:** The installation command must be surrounded by double quotation marks. Any command entered in this file will be executed by ALL machines using the distribution share, even if the command doesn't apply for a particular system (i.e., installing a video driver).

---

## Appendix B - UNATTEND.TXT

```
[Unattended]
Method = Express
OemPreinstall = yes
ConfirmHardware = no
NtUpgrade = no
Win31Upgrade = no
Win9xUpgrade = no
TargetPath = WINNT
OverwriteOemFilesOnUpgrade = no
NoWaitAfterTextMode = 1
NoWaitAfterGUIMode = 1
OemSkipEula = yes

[GuiUnattended]
OemSkipWelcome = 1
OemBlankadminPassword = 1
TimeZone = "(GMT-06:00) Central Time (US & Canada)"

[UserData]
FullName = "Your User Name"
OrgName = "Your Organization Name"
ComputerName = COMPUTER_NAME
ProductID = "xxxxx-OEM-xxxxxxx-xxxxx"

[DisplayDrivers]
"Standard VGA (640x480, 16 colors)" = "Retail"

[Display]
BitsPerPel = 8
XResolution = 1024
YResolution = 768
VRefresh = 60
AutoConfirm = 1
InstallDriver = 1
InfFile = "atirage.inf"
InfOption = "ATI 3D RAGE LT PRO AGP 2X"

[OEM_Ads]
SetupNetwork = "yes"

[Network]
DetectAdapters = ""
InstallProtocols = ProtocolsSection
JoinWorkgroup = WORKGROUP

[ProtocolsSection]
NBF = NetBEUI_Parameters
TC = TCPIP_Parameters

[NetBEUI_Parameters]

[TCPIP_Parameters]
DHCP=YES
```

## Appendix C - CMDLINES.TXT

[Commands]

"c:\sp3\i386\update -u -z"

"c:\ess\disk1\setup -s"

"c:\modem\nt40\setup -N -HOMECOUNTRY=US -S"

"c:\enhnt\disk1\setup -s"

"c:\sec32\disk1\setup -s"

"c:\ntpc\disk1\setup -s"

"c:\multbay\disk1\setup -s"

"c:\im\disk1\setup -PREINST -S"

".\regedit /s .\cware.reg"