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DOS Compatibility Card: Using With Novell Netware (11/96)

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TOPIC ---

This article provides information on using Novell Netware with the DOS
Compatibility Card for the Power Macintosh.

DISCUSSION --

Introduction
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This document assumes a working knowledge of DOS and Windows. This document will
focus on aspects of network software installation that deviates from normal
DOS/Windows installations. This document is not a substitute for and should be
used in conjunction with product documentation!

Simultaneous Macintosh and DOS networking
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Your Power Macintosh 6100 DOS Compatible can have simultaneously active
connections in both environments, provided different networking prtocols are
used. You cannot have two identical protocols running in both environments. If
identical protocol support in both environments is needed, the only solution at
this time is to encapsulate one protocol inside a different protocol, referred
to as "tunneling". For example, there are various options to have TCP/IP active
on both the Macintosh and the DOS side; They all require some form of gateway to
either route IP encapsulated in AppleTalk, or IP encapsulated in IPX. One
solution is to set MacTCP for EtherTalk and put an Apple IP Gateway on the
network.

DOS networking and Memory
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If you will be using the Power Macintosh 6100 DOS Compatible networking
functions, it is recommended that you maximize conventional memory by removing
unecessary device drivers and TSRs. Also, load the remaining device drivers and
TSRs high if possible. Windows for Workgroups 3.11 requires greater than 540K of
conventional memory for it's Browser to function properly.

Windows for Workgroups: Installation considerations
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If you will be installing Windows for Workgroups 3.11, the Novell Netware
client, AND TCP/IP support, install the NetWare client first, Windows for
Workgroups 3.11 second, and the IP stack third.

ODI to NDIS translation issues
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Novell provides an ODI to NDIS translator called "ODINSUP.COM", which is copied
to the same directory as the client software. This allows ODI drivers to be
used in an NDIS environment. When using ODINSUP.COM, you must specify an
interrupt in the NET.CFG file. Use the statement:

INT 6

in the Link Driver section of the NET.CFG file. Failure to do this results in
the following error message:

"ERROR: "First Mac ODI MLID does not conform to the latest ODI MLID
specification. Call adapter manufacturer and request a newer MLID that
preserves the PIC mask bit."

For a complete discussion of ODINSUP.COM and configuration information for it,
please contact Novell.

Windows for Workgroups 3.11
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If Windows for Workgroups 3.11 is to be installed, it is recommended that you
become familiar with the protocol.ini file, which Windows for Workgroups 3.11
uses for setting up the networking environment. Without the proper entries in
this file, Windows for Workgroups 3.11 networking will not function properly.
The installer for Windows for Workgroups 3.11 does NOT modify the protocol.ini
or net.cfg file correctly, which means they must be manually edited. A suggested
resource is the Windows for Workgroups 3.1 Resource Kit, available from
Microsoft.

MACODI
======

MACODI.COM is located on the DOS Compatibility Card Installer Disk for DOS
Environment.

It is important to note that the Power Macintosh 6100 DOS Compatible does not
require any special settings where networking is concerned. The DOS side
functions as would any DOS machine using ODI drivers. The only special
consideration is to be sure the same protocols are not running in both
environments unless tunneling is used.

Binding TCP/IP protocols in NET.CFG
===================================

For any TCP/IP setup, you MUST bind IP and ARP in the net.cfg file. The only
notable exception to this that we know of is FTP Software's PC/TCP. If the IP
protocol stack you use requires RARP, you MUST bind this also. The entries that
bind IP, ARP, and RARP will ALWAYS be the same, unless you are binding to a
frame type other than Ethernet_II, which is unlikely. This is the standard IP,
ARP, and RARP listing that MUST be in the net.cfg file for IP support:

Link Driver MACODI
 Frame Ethernet_II
 Protocol IP 800 Ethernet_II
 Protocol ARP 806 Ethernet_II
 Protocol RARP 8035 Ethernet_II

As a general rule, do not add PORT or INT statements to the net.cfg file. ODI
drivers do not necessarily require them, and MACODI does not use interrupts. If
using odinsup.com for NDIS compatibility, set the INT value to 10.

Example Installation and Settings Files
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The following are some examples of networking configurations on the Power
Macintosh 6100 DOS Compatible. Note that for all of these installations, Novell
Netware was loaded. Also note that defaults were selected in all of these
scenarios, which may not be valid for your environment. These are included as
examples only. In some situations, the installer may not respond as outlined due
to differences in files loaded into memory at the time of the installation. If
that occurs, proceed per the software's documentation for using the software
with ODI drivers. For the sake of brevity, only portions of files specific to
the discussion will be listed. For further help in setting up the various
networking environments, please contact the vendor of your network operating
system.

Novell Netware client software installation

When installing the NetWare client software, the main install screen lists 6
options. Option 5 is specific to the Power Macintosh 6100 DOS Compatible and is
the only one that deviates from standard installations.

Step 1

```
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Scroll down to  option 5. and press enter to see the list of network interface
card (NIC) drivers from which to choose.
```

Step 2

Scroll down (or click "ot") to "OTHER DRIVERS" and press enter.

Step 3

If you are installing the NetWare client software from CD-ROM, insert the disk
labelled ""DOS Compatibility Card Installer Disk for DOS Environment" and hit
enter. If you are installing the NetWare client software from floppy, hit
command-e to eject the disk that's in the drive, insert the above mentioned
disk, and hit enter.

Step 4

Hit enter on "Power Macintosh 6100 Ethernet Adapter"

Step 5

It will ask you what frame type you want, follow the prompts to select the
proper frame type.

At this point, everything else is standard - follow the prompts on the screen to
finish the installation. The following lists the config.sys, autoexec.bat,
startnet.bat, and net.cfg files after installing the NetWare client on a stock
Power Macintosh 6100 DOS Compatible. These files were modified by the NetWare
client installer. In addition, "yes" was entered to "install Windows support"
and "let the installer modify files" on the NetWare client installer screen.
This install was performed from the Novell Netware 3.12 CD-ROM. For further help
with installing Novell Netware client software, please call Novell.

```
CONFIG.SYS
-------------------------------------------------------
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\DOS\HIMEM.SYS /TESTMEM:OFF
REM No EMS memory configuration
REM For PC Setup 1.0.7 the lines are:
REM DEVICE=C:\DOS\EMM386.EXE NOEMS X=C800-CFFF RAM=D000-EFFF
REM or
REM DEVICE=C:\DOS\EMM386.EXE X=C800-CFFF RAM=D000-EFFF
REM
REM For PC Setup 1.5, the command lines are:
REM DEVICE=C:\DOS\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF
REM or
REM DEVICE=C:\DOS\EMM386.EXE I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF
REM
DEVICE=C:\DOS\EMM386.EXE NOEMS I=CA00-CBFF X=CC00-CFFF RAM=D000-EFFF
REM EMS memory configuration
REM DEVICE=C:\DOS\EMM386.EXE RAM=D000-EFFF FRAME=D000
DOS=HIGH,UMB
```

```
FILES=40
STACKS=9,256
LASTDRIVE=Z
DEVICE=C:\Apple\CDROM.SYS /D:CDDRVR
```

```
AUTOEXEC.BAT
--------------------------------------------------------
@CALL C:\NWCLIENT\STARTNET
@ECHO OFF
LH C:\DOS\SMARTDRV.EXE /X
PROMPT $p$g
PATH C:\WINDOWS;C:\DOS
PATH=C:\NWCLIENT\;%PATH%
SET TEMP=C:\DOS
SET SOUND=C:\SB16
SET BLASTER=A220 I5 D1 H1 T6
LH C:\SB16\MIXERSET /P /Q
LH C:\Apple\ApplePC
LH C:\Apple\MacShare
LH C:\DOS\MSCDEX /D:CDDRVR /L:E
LH C:\Apple\DOSClip
set tmp=C:\Temp
```

```
STARTNET.BAT
--------------------------------------------------------
@ECHO OFF
C:
CD \NWCLIENT
SET NWLANGUAGE=ENGLISH
LSL
MACODI.COM
IPXODI
VLM
CD \
```

```
NET.CFG
--------------------------------------------------------
Link Driver MACODI

FRAME Ethernet_802.2
```

Article Change History:
14 Nov 1996 - Reworded for clarity.
23 May 1996 - Added new PC Setup CONFIG.SYS information.
29 Jun 1995 - Corrected spelling.

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