

WHITE PAPER

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Armada 7700 and 7300 Pre-install Refresh

The purpose of this White Paper is to provide information on the software update (referred to as the Pre-install Refresh) for 1997 Armada 7000 notebooks and provides the basis for new 1998 models in the Armada 7700 and 7300 families. The scope of the initiative is to provide upgrades to a number of key software components as well as introduce new software functionality over and above that which was included in early production units. The operating system focus is on those offered as pre-install options; however, some upgraded software components and testing scope includes all operating systems supported on the Armada 7000 family.

The pre-install image refresh does not apply to the Armada 7710, 7730, 7750, 7330 or 7350. However, all Compaq software component upgrades referred to in this document have been tested and are supported on these models. Upgraded software components are available for download on the Compaq Web site, the Armada 7000 Software CD and the Compaq Support Software CD.

This document is intended for external audiences with a need for information about this refresh of the Armada 7700 and 7300 pre-install image.

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Armada 7700 and 7300 Pre-install Refresh

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HIGHLIGHTS

Key differences between the Pre-install Refresh and the prior pre-install image include:

- (1) Windows NT 4.0 pre-install images have been updated to include Microsoft Service Pack 3.
- (2) Windows 95 and Windows NT 4.0 pre-install images have been updated to include Microsoft Internet Explorer 4.0. The previous version, 3.02, has been removed from the pre-install image.
- (3) Installing Service Pack 3 on Windows NT 4.0 pre-install images necessitated an upgrade of two key Compaq software components. These two components are Power Management and Multibay providing enhanced power management and Multibay device swapping capability respectively. Older versions of these components will not work with Service Pack 3.
- (4) Updated video drivers for both Windows 95 and Windows NT 4.0. The update does not add new functionality, it only introduces fixes to problems identified with earlier versions.
- (5) Updated audio drivers for Windows 95.
- (6) The desktop configuration includes a convenient icon that launches Microsoft Service Pack 3 setup. Although Service Pack 3 is already installed, making operating configuration changes that involve changes to networking components may require reapplication of Service Pack 3.

WINDOWS 95

WINDOWS 95 SOFTWARE COMPONENT VERSION COMPARISON

Software Component	Pre-install Refresh Version	Prior Version	Version Change
Compaq Diagnostics (Operating System Independent) ¹	10.19	10.14	Yes
Compaq Diagnostics for Windows 95	1.20 B	1.161.20 B	Yes
Compaq Power Management for Windows 95 ²	2.01 B1	2.01 A2	Yes
Display Driver for Windows 95 ³	2.31.33	2.31.28 A	Yes
ESS 1878 Audio Drivers for Windows 95 ⁴	4.04.00.1133 B1	4.04.00.1133 A1	Yes
Microsoft Internet Explorer for Windows 95	4.0	3.02	Yes
Compaq Armada NetFlex 3 Network Support	1.00 K	1.00 K	No
Compaq DSVD Enabler for Microsoft NetMeeting	1.20 A	1.20 A	No
Compaq F10 Setup (Operating System Independent)	2.00	2.00	No
Compaq Intelligent Manageability for Windows 95	3.20 D	3.20 D	No
Compaq Programmable Keys for Windows 95	1.10	1.10	No
Compaq Security Extensions for Windows 95 (Security32)	1.00 A	1.00 A	No

¹ The release adds additional support for products from other Compaq divisions. The only applicable change for notebooks is added support for DVD storage devices.

² This release fixes two known problems: (1) free space is now reported correctly on partitions larger than 2GB; and (2) the hibernation file is validated when selecting the hibernation tab in the control panel extension.

³ New version fixes GPF fault when running 24 Bits/per pixel Winbench 98 business graphics Winmark.

⁴ This release is identical to the prior except that this version is certified by Microsoft. The VXD file is the only file changed over the previous version.

NOTE:

The version of Microsoft Internet Explorer included in the Pre-install Refresh is 4.0. As of this printing, Microsoft has released version 4.01, which includes a number of enhancements, most notably in the area of security. Internet Explorer 4.01 can be downloaded from the Microsoft Web site at www.microsoft.com.

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Software Component	Pre-install Refresh Version	Prior Version	Version Change
Display Utility for Windows 95	1.03.08 A	1.03.08 A	No
JustConnect for Windows 95	1.20 A	1.20 A	No
MediaMatix Arcade Pak for Windows 95	2.032.00.03 B	2.032.00.03 B	No
Microsoft DirectX	3.0A	3.0A	No
MSDOS Real Mode Support for Windows 95	1.00	1.00	No
Non-DDC Monitor Configuration Utility for Windows 95	1.00 A	1.00 A	No
PointCast	1.38	1.38	No
True Flash File System for Windows 95	1.00 A	1.00 A	No

Table 1 - Windows 95 Software Component Version Comparison

WINDOWS NT 4.0

WINDOWS NT 4.0 SOFTWARE COMPONENT VERSION COMPARISON

Software Component	Pre-install Refresh Version	Prior Version	Version Change
Compaq Diagnostics (Operating System Independent) ⁵	10.19	10.14	Yes
Compaq Multibay Interchange Support for Windows NT 4.0 with Service Pack 3 ⁶	3.10	2.10	Yes
Compaq Power Management for Windows NT 4.0 with Service Pack 3 ⁷	2.20	2.10	Yes
Display Driver for Windows NT 4.0 ⁸	1.02.21 A	1.02.14 A	Yes
Microsoft Service Pack for Windows NT 4.0 ⁹	3.00	2.00	Yes
Microsoft Internet Explorer for Windows NT 4.0	4.0	3.02	Yes
Active Movie Filter for Windows NT 4.0	4.15.97 A	4.15.97 A	No
CardWare [®] 5.0 for Windows NT 4.0	2.08 A	2.08 A	No
Compaq Armada NetFlex 3 Network Support	1.00 K	1.00 K	No
Compaq Diagnostics for Windows NT 4.0	1.09 A	1.09 A	No
Compaq F10 Setup (Operating System Independent)	2.00	2.00	No
Compaq Intelligent Manageability for Windows NT 4.0	3.20	3.20	No

⁵ The release adds additional support for products from other Compaq divisions. The only applicable change for notebooks is added support for DVD storage devices.

⁶ Compaq Multibay Interchange Support for Windows NT 4.0 was previously included as part of the Compaq Support Diskette for Windows NT 4.0. The version has changed to fix incompatibilities between Microsoft Service Pack 3 and the previous version. This component also includes IDE bus master support previously distributed as part of the Compaq Support Diskette for Windows NT 4.0. This release also includes four minor problem fixes since the last version.

⁷ Compaq Power Management for Windows NT 4.0 was previously included as part of the Compaq Support Diskette for Windows NT 4.0. The version has changed to fix incompatibilities between Microsoft Service Pack 3 and the previous version. This release also includes four minor problem fixes since the last version.

⁸ This version fixes a minor problem with the HOTKEY.EXE application.

⁹ An icon shortcut to the Microsoft Service Pack 3 setup has been created on the desktop. Making configuration changes to the operating system that involve changes to some networking components may require reapplication of Service Pack 3.

NOTE:

The version of Microsoft Internet Explorer included in the Pre-install Refresh is 4.0. As of this printing, Microsoft has released version 4.01, which includes a number of enhancements, most notably in the area of security. Internet Explorer 4.01 can be downloaded from the Microsoft Web site at www.microsoft.com.

Software Component	Pre-install Refresh Version	Prior Version	Version Change
Compaq Programmable Keys for Windows NT 4.0	1.10	1.10	No
Compaq Security Extensions for Windows NT 4.0	1.00 A	1.00 A	No
Display Utility for Windows NT 4.0	1.03.06 B	1.03.06 B	No
ESS 1878 Audio Drivers for Windows NT 4.0	2.00.81 A	2.00.81 A	No
Non-DDC Monitor Configuration Utility for Windows NT 4.0	1.00 A	1.00 A	No
Trio Communications Suite for Windows NT 4.0	5.12 C	5.12 C	No

Table 2 - Windows NT 4.0 Software Component Version Comparison

MICROSOFT SERVICE PACK 3 FEATURE SUMMARY¹⁰

Feature	Description
RPC Transport	<p>New versions of the remote procedure call (RPC) run-time dynamic-link library (DLL) and the RPC subsystem service (Rpcss.exe). These changes provide enhanced support for RPC message queuing, which is a feature of the upcoming Microsoft Message Queue Server (MSMQ). In order to use message queuing in an RPC client/server application on Windows NT 4.0, you must have Service Pack 3 installed on both the client machine and the server machine. You also need Beta 2 or later of MSMQ installed on both the client machine and the server machine.</p> <p>For more information about changes to RPC Transport refer to the Microsoft Web site at http://www.microsoft.com/msdn/sdk.</p>
Crypto API 2.0	<p>The Microsoft Cryptography application programming interface (CryptoAPI) provides developers with core cryptographic and certificate functions. CryptoAPI 1.0 supports public-key and symmetric-key operations, such as key generation, key management, key exchange, encryption, decryption, hashing, digital signatures, and verification of signatures. CryptoAPI 2.0 (the upgrade contained in Service Pack 3) includes this core cryptographic functionality as well as certificate-based functionality. Developers can use certificates with these public-key operations and perform the necessary encapsulations and encoding to apply certificates within their applications.</p> <p>CryptoAPI 2.0 supports existing standards, such as X.509 v.3 certificate formats, ASN.1 encoding, and both PKCS #7 and #10 for encapsulation. This allows applications using CryptoAPI to operate with other certificate-based systems that adhere to these standards.</p> <p>For more information about Crypto API 2.0 refer to the Microsoft Web site at http://www.microsoft.com/NTServerSupport/Content/ServicePacks/Readme.htm#API.</p>
DirectX 3.0	<p>Service Pack 3 contains a complete software implementation of DirectX 3.0 as well as ongoing hardware support for the DirectDraw component of DirectX 3.0. Additional features have been added to DirectDraw, DirectSound, DirectInput, DirectPlay and Direct 3D.</p> <p>For more information about DirectX 3.0 refer to the Microsoft Web site at http://www.microsoft.com/NTServerSupport/Content/ServicePacks/Readme.htm#API.</p>

¹⁰ Adapted from information published by Microsoft. For more information on Windows NT 4.0 or Service Pack 3, refer to the Microsoft web site at <http://www.microsoft.com>.

Feature	Description
ODBC 3.0	<p>Service Pack 3 includes the latest version of Microsoft Open Database Connectivity (ODBC) API. ODBC 3.0 provides an updated ODBC Control Panel and an ODBC Administrator interface that uses tabbed controls and provides more information about the ODBC components installed and in use on your system. This updated version of ODBC also introduces the concept of a file data source that can be shared or placed on a central server. With the appropriate drivers installed, ODBC 3.0 will let a user share a file data source or place a file data source on a central server.</p> <p>For more information about ODBC 3.0 refer to the Microsoft Web site at http://www.microsoft.com/NTServerSupport/Content/ServicePacks/Readme.htm#API.</p>
SMB Signing	<p>Service Pack 3 includes an updated version of the Server Message Block (SMB) authentication protocol, also known as the Common Internet File System (CIFS) file sharing protocol. The updated protocol has two main improvements: it supports mutual authentication, which closes a "man-in-the-middle" attack, and it supports message authentication, which prevents active message attacks. SMB signing provides this authentication by placing a digital security signature into each SMB, which is then verified by both the client and the server.</p> <p>For more information about how to configure SMB Signing refer to the Microsoft Web site at http://www.microsoft.com/KB/Articles/Q161/3/72.htm.</p>
Password Filtering	<p>This Service Pack includes a password filter (Passfilt.dll) that allows system administrators to increase password strength. Additional steps must be taken beyond installation of Service Pack 3 to implement improvements in password filtering. For more information refer to the Microsoft Web site at http://www.microsoft.com/NTServerSupport/Content/ServicePacks/Readme.htm#API.</p>

Feature	Description
Restricting Anonymous User Access	<p>Windows NT has a feature where anonymous logon users can list domain user names and enumerate share names. Some customers who want enhanced security have requested the ability to optionally restrict this functionality. Service Pack 3 provides a mechanism for administrators to restrict the ability for anonymous logon users (also known as NULL session connections) to list account names and enumerate share names.</p> <p>In addition, Service Pack 3 has a feature that restricts anonymous logon users from connecting to the registry remotely. After Service Pack 3 is installed, anonymous users cannot connect to the registry and cannot read or write any registry data. Also, a new built-in group known as Authenticated Users is created when you install Service Pack 3. The Authenticated Users group is similar to the Everyone group, except for one important difference: anonymous logon users (or NULL session connections) are never members of the Authenticated Users group.</p> <p>For more information on these new features, including information on configuring the registry to restrict anonymous user access to list domain user names and enumerate share names, refer to the Microsoft Web site at http://www.microsoft.com/KB/Articles/Q143/4/74.htm.</p>
Using a System Key To Strongly Encrypt Password Information	<p>Service Pack 3 provides the capability to use strong encryption techniques to increase protection of account password information stored in the registry by the Security Account Manager (SAM). Windows NT stores user account information, including a derivative of the user account password, in a secure portion of the registry protected by access control and an obfuscation function. The account information in the registry is only accessible to members of the administrators group. Windows NT, like other operating systems, allows privileged users who are administrators access to all resources in the system. For users who require enhanced security, strong encryption of account password derivative information provides an additional level of security to prevent administrators from intentionally or unintentionally accessing password derivatives using registry programming interfaces.</p> <p>The strong encryption capability in Service Pack 3 is an optional feature. Strong encryption protects private account information by encrypting the password data using a 128-bit¹¹ cryptographically random key, known as a password encryption key. Administrators may choose to implement strong encryption by defining a system key for Windows NT. To do this, administrators can run a utility called Syskey.exe. For more information on using Syskey.exe to configure a system key, refer to the Microsoft Web site at http://www.microsoft.com/KB/Articles/Q143/4/75.htm.</p>
New Win32 APIs and SDK for Service Pack 3	<p>Service Pack 3 includes several new APIs, including two Win32 APIs. To develop applications that take advantage of these new APIs, a Service Pack 3 SDK will be available on the Microsoft Web site at: http://www.microsoft.com/msdn/sdk.</p>

¹¹ 128 bit security key technology is subject to United States export rules regulated by the International Traffic in Arms Regulations (ITAR, 22 CFR 120-130) of the U.S. State Department, Office of Defense Trade Controls. For this reason Service Pack 3 with 128 bit security key technology cannot be downloaded from the Microsoft Web site. For information on how to obtain the 128 bit security key version of Service Pack 3 refer to the Microsoft Web site at <http://www.microsoft.com/NTServerSupport/Content/ServicePacks/Readme.htm#Obtain>

OTHER CHANGES

REMOVED SOFTWARE COMPONENTS

Software Component	Version
Compaq Support Diskette for Windows NT 4.0 ¹²	2.10 A
Netscape Navigator for Windows 95	2.01
SMC Fast Infrared Drivers for Windows 95 ¹³	1.00 B

Table 3 - Removed Software Components

¹² The Compaq Support Diskette for Windows NT 4.0 included separate components for Multibay swapping support and enhanced power management. Multibay Interchange Support and Power Management are now provided separately. For customers who continue to use Microsoft Service Pack 2, the Compaq Support Diskette for Windows NT 4.0 is still available on the Compaq Web site at <http://www.compaq.com/support>.

¹³ Fast IR drivers are not pre-installed; however, they are available for download from the Compaq Web site. They can also be found on the Armada 7000 Software CD and Compaq Support Software CD.