Title: C79DKMST CreationDate: 08/19/97 17:47:41

IBM ThinkPad 770 User's Guide Supplement

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First Edition (September 1997)

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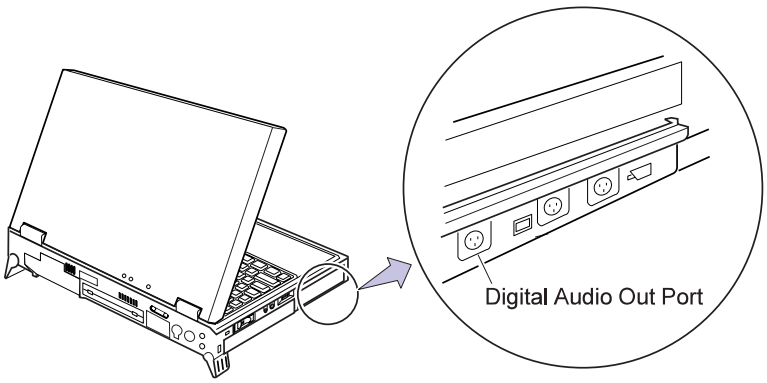
Using the Digital Audio Out Feature

(**Models equipped with the DVD and Enhanced Adapter**)

To use this feature, you will need the optional DVD drive and the software shipped with this option. Refer to the user's guide shipped with this option for instructions on how to use it.



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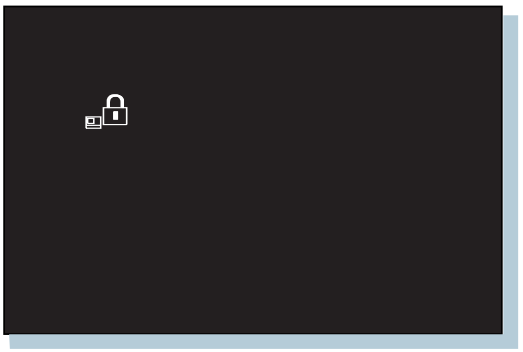
Changing a Power-On Password or HDD Password

1 Power off your computer and wait at least 5 seconds; then power it on again. A password prompt appears.



Note: The Power-on and HDD password prompts look a little different. The prompt shown above is the Power-on prompt.

2 Type your current password; then press the **Spacebar**.

3 Type the new password: then press the **Spacebar**.

4 Type the new password again to verify it; then press **Enter**. You have changed your password.

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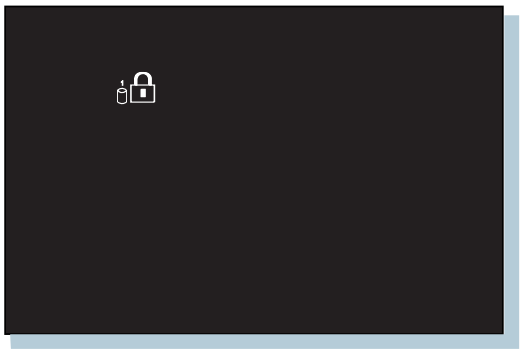
Removing a Power-On Password or HDD Password

1 Power off your computer and wait at least 5 seconds; then power it on again. A password prompt appears.



Note: The Power-on and HDD password prompts look a little different. The prompt shown above is the HDD prompt.

2 Type your current password; then press the **Spacebar**; then press **Enter**. You have removed your password.

Hot and Warm Plug and Unplug Functions

Your ThinkPad 770 computer enables you to attach or detach devices dynamically (*hot* or *warm plug* or *unplug*) in the UltraBay.

Hot plug or *unplug* means to attach or detach a device with your computer powered on.

Warm plug or *unplug* means to attach or detach a device while your computer is in suspend mode.

The LED light goes on and the beeper beeps. For a description of the different LED color indications, see “Knowing the LED Color Indications” in the *User's Guide*.

Supported Devices by Operating System

Devices that support the hot and warm plug/unplug function are shown as follows by operating system:

OS/2 and Windows NT 3.51

	Battery	**Diskette Drive**	**HDD**	**CD-ROM Drive**	**DVD Drive**
Hot plug or unplug	Yes	Yes	No	No	No
Warm plug or unplug	Yes	Yes	No	Yes	Yes

Windows 95 and Windows NT 4.0

	Battery	Diskette Drive	HDD	CD-ROM Drive	DVD Drive
Hot plug or unplug	Yes	Yes	No	Yes	Yes
Warm plug or unplug	Yes	Yes	No	Yes	Yes

Notes:

1. The LED might not go on or you might not hear a beep or see a message when a device is hot or warm plugged or unplugged under OS/2 or Windows NT 3.51.
2. Hot- or warm-plugging or unplugging of an IDE device (CD-ROM drive or DVD drive) is not supported in 2-channel IDE mode.

Device Restrictions

The restrictions on some of the devices are as follows:

1. For the **Diskette Drive**:
   You cannot hot-plug or unplug the diskette drive in the UltraBay when drive A is assigned to the external diskette drive. The external diskette drive is the drive that is connected to the system's or to the SelectaBase 770 Port Replicator's external drive port, or the one installed in the docking station.

   This applies to the following conditions:

   Your system starts with the external diskette drive attached and without a diskette drive in the UltraBay.
   You set the FDD setting to External using PS2.EXE and start your system without the internal drive installed (in the UltraBay) nor the external diskette drive attached.

2. For **Other IDE Devices**:

   HDD:

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You cannot use the hot and warm plug and unplug functions.
CD-ROM drive and DVD drive:
You cannot use the hot and warm plug and unplug functions in 2-channel IDE mode. Refer to the table on page 8.

3. For the **Battery**:
   Do not hot unplug a secondary battery from the UltraBay when the system is working under the secondary battery power. The power may go off. This may be a situation where you have the secondary battery inserted in the UltraBay and when:

   The AC Adapter is not connected and there is no primary battery.
   The AC Adapter is not connected and the primary battery power is low.

   To see whether your computer is running under the secondary battery power or not, see the battery status indicator on the LCD indicator panel.

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Enabling the IDE Drive on the Docking Station

If you have installed an IDE device (such as a hard disk drive or a CD-ROM drive) in the docking station, you must change the setting on your computer to enable the device. By default, your computer uses the primary IDE channel for the primary hard disk drive (Primary-Master) and the secondary IDE channel for a device in the UltraBay II (Secondary-Master). You cannot use the IDE device in the docking station in this default **2-channel default IDE mode**.

To enable an IDE device in the docking station, you must change the default setting to either of the following:

3-channel IDE mode

2-channel IDE mode

In 3-channel IDE mode, you can still use the hot and warm plug or unplug functions. An additional IRQ for the third IDE channel is required.

In 2-channel IDE mode, you do not have to assign an extra IRQ. However, you will not be able to use hot and warm plug or unplug functions.

Note: If you change the IDE channel configuration, the drive letter assignment may be changed.

Setting to 3-Channel IDE Mode

1. Open the **ThinkPad Configuration** program.
2. Click on the **Docking Station** ( ) button.
3. Change the IRQ value in **IRQ Holder for PCI Steering** to a value other than IRQ 11 or 15 (IRQ 9 is recommended).
4. Select **Enable IDE devices**. Make sure the third IDE channel is selected in the list box. By default, the third IDE is automatically selected.
5. Click on **OK** to close the dialog box.
6. Select **OK** in the warning dialog box. The system restarts.

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Setting to 2-Channel IDE Mode

1. Open the **ThinkPad Configuration** program.
2. Click on the **Docking Station** ( ) button.
3. Change the IRQ value in **IRQ Holder for PCI Steering** to a value other than IRQ 11.
4. Select **Enable IDE devices**. The third IDE is automatically selected.
5. Select **Secondary channel** in the IDE channel selection list box.
6. Click on **Disable Device** in the warning message dialog box.
7. Click on **OK** to close the dialog box.
8. Select **OK** in the warning dialog box. The system restarts.

   If necessary, change the IRQ value assigned to PCI to 11.

The following table shows the relationship between the devices and IRQ values:

Device	2-Channel IDE Default Mode	3-Channel IDE Mode	2-Channel IDE Mode
HDD	IRQ 14, P-M	IRQ 14, P-M	IRQ 14, P-M
UltraBay II	IRQ 15, S-M	IRQ 15, S-M	IRQ 14, P-S
Docking station	Disabled	IRQ 11, T-M and T-S	IRQ 15, S-M and S-S

Legend:

1. P-M: Primary-master
2. P-S: Primary-slave
3. S-M: Secondary-master
4. S-S: Secondary-slave
5. T-M: Third-master
6. T-S: Third-slave

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Installing the Various Versions of Windows 95

The following versions of Windows 95 are available for your ThinkPad 770:

Retail Release version (*OSR0*)
Service Pack Version 1 (*OSR1*)
OEM Service Release Version 2 (*OSR2*)
OEM Service Release Version 2.1 (*OSR2.1*)

The OSR0 is an off-the-shelf version of Windows 95 and is available at any retail store. The OSR1 version can be downloaded from the Microsoft Internet homepage (`http://www.microsoft.com`). OSR2, and OSR2.1 versions are available only as preloaded versions. Since your ThinkPad 770 incorporates several new devices that were not available when these versions of Windows 95 were announced, take special precautions when installing or reinstalling these versions.

Versions OSR0 and OSR1

1 Create a Windows 95 supplementary diskette using the Diskette Factory program (refer to “Installing Software for Windows 95” in the online book).

2 Make sure there is enough space in the hard disk to store the cabinet files and the installation programs (the required space may vary depending on the language of Windows 95).

3 Make a temporary directory.

For example, enter at the DOS prompt:

```
MD C:\WIN95
```

4 Copy all the cabinet (.CAB) files and the installation programs from the `\WIN95` directory of the Windows 95 CD-ROM to this directory.

For example, enter at the DOS prompt:

```
COPY src_cd:\WIN95\ .  tgt_drv:\tgt_dir
```

Where `src_cd` is the drive letter of the CD-ROM drive (C, D,...), `tgt_drv` is the drive letter, and `tgt_dir` is the temporary directory that you made in step 3.

5 Insert the Windows 95 supplementary diskette into the diskette drive and copy the updated files from the Windows 95 supplementary diskette to the temporary directory.

For example, enter at the DOS prompt:

```
COPY a:\OSR INF\ .  tgt_drv:\tgt_dir
```

Where `tgt_drv` is the drive letter and `tgt_dir` is the temporary directory that you made in step 3.

6 Install the operating system to the temporary directory by entering `SETUP.EXE` at the temporary directory prompt.

7 Refer to the Windows 95 documentation and the instructions that appear on the screen to complete the installation.

8 If required, install the OSR1 version available from the Microsoft Internet homepage.

9 If required, remove all the files in the temporary directory and the directory itself after you complete the installation, to free the space on the hard disk.

Versions OSR2 and OSR2.1

If you don't have a CD-ROM version of OSR2 or OSR2.1, you should reinstall them by restoring the original preloaded image from the Recovery CD. Refer to “Recovering Lost or Damaged Software” on page 14.

If you have a CD-ROM version of OSR2 or OSR2.1, do the following:

1 Create a Windows 95 supplementary diskette using the Diskette Factory program (refer to “Installing Software for Windows 95” in the online book).

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2 Make sure there is enough space in the hard disk to store the cabinet files and the installation programs (the required space may vary depending on the language of Windows 95).

3 Make a temporary directory.

For example, enter at the DOS prompt:

```
MD C:\WIN95
```

4 Copy all the cabinet (.CAB) files and the installation programs from the `\WIN95` directory of the Windows 95 CD-ROM disk to the temporary directory.

For example, enter at the DOS prompt:

```
COPY src_cd:\WIN95\ .  tgt_drv:\tgt_dir
```

Where `src_cd` is the drive letter of the CD-ROM drive (C, D,..), `tgt_drv` is the drive letter, and `tgt_dir` is the temporary directory that you made in step 3.

5 Insert the Windows 95 supplementary diskette into the diskette drive.

6 Copy the updated files in the Windows 95 supplementary diskette to the temporary directory.

For example, enter the following at the DOS prompt:

```
COPY a:\OSR2INF\ .  tgt_drv:\tgt_dir
```

```
COPY a:\CARDBUS\ .  tgt_drv:\tgt_dir
```

Where `tgt_drv` is the drive letter, and `tgt_dir` is the temporary directory that you made in step 3.

7 Install the operating system to the temporary directory by entering `SETUP.EXE` at the temporary directory prompt.

8 Refer to the Windows 95 documentation and the instructions that appear on the screen to complete the installation.

9 Insert the Windows 95 supplementary diskette into the diskette drive.

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10 Change the drive letter at the DOS prompt to A and run `\QFE444\PCCARDUP.EXE.`

11 Reboot the system

12 To replace the Unimodem drivers to support the Intel Video Phone application, insert the Windows 95 supplementary diskette into the diskette drive.

13 From the DOS prompt, go to `C:\WINDOWS\SYSTEM` (or the `SYSTEM` subdirectory where Windows 95 is installed).

14 Rename the `UNIMODEM` and `UNIMDM.TSP` files by entering:

```
REN UNIMODEM.VXD UNIMODEM.BAK
REN UNIMDM.TSP UNIMDM.BAK
```

15 Copy a new file by entering `COPY A:\UNIMODEM\ .`

16 If you are installing OSR2.1, refer to the documentation shipped with this version.

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Installing OS/2 Warp

OS/2 Warp Version 3

To complete the installation of OS/2 Warp Version 3, you must update Disk 1 if you are going to use a hard disk with a capacity of more than 4.3 GB. You can obtain updated disk information from the following IBM World Wide Web site:

```
http://service.software.ibm.com/os2ddpak/index.htm
```

When the homepage appears, do the following:

1. Click on “Yes, I agree. Show the Device Category List...”
2. Click on “OS/2 Component Updates.”
3. Click on “Installation Diskette Updates.”
4. Click on “>4.3GB IDE Hardfile Support.”
5. Do the instructions that follow.

For additional information, contact the IBM PC Company Help Center at 1-800-772-2227 in the U.S.

OS/2 Warp 4 with a Correction Disk

1. Create an OS/2 Warp Version 4 Install Diskette 1 Update using the Diskette Factory Program (refer to “Installing Software for OS/2 Warp Version 4” in the online book).
2. Install OS/2 Warp Version 4 from the Install Disk.
3. When you are prompted to insert Disk 1, use the new diskette created in step 1.
4. Continue installing OS/2 Warp Version 4.

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Recovering Lost or Damaged Software

Your ThinkPad computer comes with a ***Recovery CD***. You should use this CD if you accidentally delete your preloaded software or if you have a hard disk failure. It restores the contents of your hard disk to the original state (the state when you purchased your computer).

The Recovery CD package consists of a boot diskette and a CD-ROM containing the original preload image.

This CD deletes all personal data and configuration settings on your computer's hard disk and restores it to the original state.

Only a complete set of the original software is restored; no individual data or application is restored.

Note: If possible, make a back-up copy of your personal files before you use the Recovery CD.

The recovery process may take up to two hours.

The following recovery options are available:

Option A

The ThinkPad 770 computer supports bootable CDs when the bootable CD function is enabled. To enable this function, do the following:

1 Power off your computer.

2 Power on your computer while pressing and holding the **F1** key. Hold the **F1** key until the Easy-Setup window appears.

3 Select the **Start up** icon.

4 Select **Power-on**.

5 Select the **CDROM** icon by clicking the mouse button or pressing the **Spacebar**.

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6 Select **OK**.

7 Select **Exit**.

8 Select **Restart** and then **OK** to restart your computer. The bootable CD-ROM function is now enabled.

9 Connect the CD-ROM drive to your computer.

10 Power on the computer.

11 Insert the Recovery CD into the CD-ROM drive.

12 Press **Ctrl**+**Alt**+**Delete**.

13 Follow the instructions on the screen.

14 When a completion message appears, remove the Recovery CD from the CD-ROM drive.

15 Press the **Restart** button.

Your computer will restart with the original preload configuration.

Option B

1 Connect the CD-ROM drive and the diskette drive to your computer.

2 Insert the Recovery CD-ROM Boot Diskette into the diskette drive.

3 Power on your computer.

4 Insert the Recovery CD into the CD-ROM drive.

5 Follow the instructions on the screen.

Note: You can select from several CD-ROM drive connection methods. Choose an appropriate option. The recovery program on the boot diskette includes drivers to support

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many devices such as the external CD-ROM, docking stations, and the hard disk drive. You are prompted if a user intervention is required.

6 When a completion message appears, remove the Recovery CD-ROM Boot Diskette from the diskette drive.

7 Press the **Restart** button.

Your computer restarts with the original preload configuration.

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Considerations on the Telephony Function

Setting the RingCentral Application for New Zealand

The RingCentral[1] program allows you to set the number of rings for incoming messages before it answers the call.

You can set the value by selecting:

```
Options - Answering - Ring Options
```

from the RingCentral menu.

The values x and y in the following fields must be between 2 and 5:

```
Answer after x rings if there are new messages.
Answer after y rings if there are no new messages.
```

Note for Caller ID Support

The section on the “Telephony Features” in the *User's Guide* mentions the support of the “Answering device with Caller ID” function. This function can be used only where Caller ID services is available. Currently, this service is available only in the U.S. and Canada.

1 RingCentral is a registered trademark of Ring Zero System Inc.

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Hints and Tips

Receiving Faxes or Mail in Suspend Mode

To receive incoming faxes or mail under OS/2, you must set the modem settings in the fax application to one of the following:

Hardware FIFO enabled
Hardware Flow Control on
UART 16550A modem

In OS/2 FaxWorks for example, select **Utilities**, **Settings**, **Modem Type**, and **Use HW FIFO (16550A)**.

If you do not set your modem to one of these settings, you will not be able to receive an incoming fax or an incoming call in suspend mode.

Hot or Warm Docking to the SelectaDock III Docking Station

For Windows 95

You may not be able to hot- or warm-dock your computer to the SelectaDock III docking station when certain PCI cards, PnP ISA cards, and PCMCIA cards are installed in the docking station. If such a condition occurs, cold boot the system.

USB Port Considerations

For PCI Cards in the SelectaDock III Docking Station

When the setting of the USB port on your computer is enabled (the default setting), do not use a PCI Video Card and a PCI Network Card at the same time in the SelectaDock III docking station. Your system cannot boot if both cards are inserted.

For the USB Port Setting on the SelectaDock III Docking Station

Do not disable the USB Port on the SelectaDock III. If you disable it, the system may hang during a hot- or warm-dock or undock operation. If this occurs, cold boot the system for recovery.

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If a USB Device is Disabled

If your computer tries to enter suspend mode and the request is rejected, the device in the USB port may be disabled. When this occurs, do a hot unplug and plug operation for the USB device.

Hot Plugging or Unplugging a PCMCIA Card

After your computer returns from standby mode to normal operation, you cannot perform hot plug and unplug operations for certain Network PCMCIA Cards in the docking station slots. Reboot the system to solve the problem.

Using a Second CardBus Card

When a CardBus card is already configured in your computer or in the docking station (SelectaDock III or PC Card Enabler), you must configure the second CardBus manually by using the Device Manager. To get to the Device Manager, click on the **System** icon in the Control Panel.

Changing Batteries during Battery-Powered Operation

When Switching from the Main Battery to the Secondary Battery

1. Insert the battery pack with the secondary battery into the UltraBay II.
2. Make sure that the bay eject lever is locked.
3. Wait until the discharge symbol (▶) moves from the main battery (**1**) to the second battery (**2**) icon in the indicator panel.

   You can now remove the main battery from the battery bay.

When Changing or Removing the Secondary Battery

1. Unlock the UltraBay II.
2. Wait until the discharge symbol (▶) moves from the secondary battery (**2**) to the main battery (**1**) icon. It takes a few seconds.

   You can now remove the secondary battery.

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Note: If the symbol does not move, it means that the main battery (**1**) is not charged and you cannot remove the secondary battery.

Changing the Crystal Audio Device Configuration

To change the audio configuration in Windows NT 3.51, do the following:

1. Change the audio resources using the ThinkPad Configuration Program.
2. Do *not* restart your computer yet.
3. Double-click on **Control Panel** and **Drivers**.
4. Select **CrystalWare Audio Driver** and click on the Setup button in the **Drivers** window.
5. Change the audio resources setting.
6. Restart your computer to make the changes effective.

Using the COM Port in OS/2

If the COM port does not work even after you set up this port correctly using the ThinkPad Configuration program, do the following:

1. Go to System Setup.
2. Select **Hardware Manager**.
3. Select **Folder** from the menu item.
4. Select **Properties**.
5. Under the default pull-down menu, select **NO HARDWARE DETECTION**, or change the setting if it is already selected.
6. Start the ThinkPad Configuration program.
7. Set up the COM port to meet your needs.
8. Reboot the system.

Using an External Condenser Microphone

The microphone/line-in jack supports the following type of microphones:

- A dynamic microphone
- A self-battery-powered condenser microphone

When you want to use an electret condenser microphone, you must use one that provides its own power source.

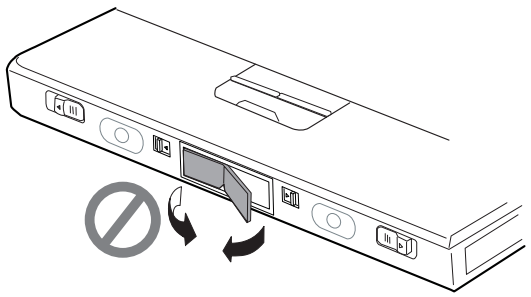
Using the NetMeeting Software

When you are hanging up a video phone call in NetMeeting, you may see a Windows exception error message; "An `exception 0E has occurred in VxD VWIN32( 1)...`". This message appears only when you are making a video phone call directly over the telephone line and after you use such data sharing tools as the whiteboard, file transfer, chat, and application sharing. When this error occurs, shut down Windows and restart your computer. This error does not occur when you are using the Intel Video Phone for Internet Video Conferencing software.

Using the Bay Eject Lever

For the 14.1-Inch Model

You can use only one eject lever at a time. When opening the eject lever, make sure that the other eject lever is closed.



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Notices

Product Notice Requirements

The following notice applies to machines equipped with a DVD and Enhanced Video adapter:

> This device is protected by U.S. patent numbers 4,631,603, 4,577,216, and 4,819,098 and other intellectual property rights. The use of Macrovision's copy protection technology in the device must be authorized by Macrovision and is intended for home and other limited pay-per-view use only, unless otherwise authorized in writing by Marcrovision. Reverse engineering or disassembly is prohibited.

Notice For Australia

The following notice applies when using the telephony functions:

> FOR SAFETY REASONS, ONLY CONNECT AUSTEL PERMITTED OR CERTIFIED EQUIPMENT.

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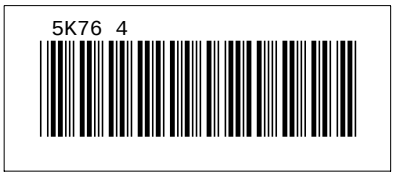
Part Number: 05K7604

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