



Softxexpand

SoftXpand Terminology

- **Host:** The PC with a Windows XP Professional SP2 operating system on which *SoftXpand* software is installed.
- **Workstation:** A location for users to work that includes a set of: monitor, keyboard, and mouse - connected physically to the host and assigned to the workstation by *SoftXpand* software.
- **Cluster:** A group of workstations that is connected to the host computer.



1. Introduction

- *SoftXpand* software creates a multi workstation cluster (up to eight workstations). It enables multiple users to simultaneously and independently share a personal computer.
- The *SoftXpand* balancing system enables optimal use of computer resources. Several *SoftXpand* workstations produce better computer performance than the standard use of Windows.
- In a *SoftXpand* cluster, each user has an independent workstation, while all workstations in the cluster share the resources of one PC.
- The number of workstations in a cluster is determined according to the computer configuration, the physical deployment and the applications that will be used.
- A basic workstation consists of: A monitor, a keyboard and a mouse. The monitor is connected to one video card port. The keyboard and mouse are connected to the USB ports.
- Peripheral devices such as sound device and DiskOnKey can be added to all workstations.
- The host computer is a standard X86 PC with a Windows XP professional sp2 operating system.



Advantages

- **Savings:** Reduced investment in hardware in order to setup a multi user computerized system. The cost of the peripheral equipment needed (USB cables, USB hubs) is negligible, compared to the total savings (Buy less computers).
- **Savings:** Reduced investment in software. (the software licenses should be reviewed).
- **Savings:** Reduced setup and maintenance time.
- **Compatibility and flexibility:** Allows the number of workstations in a cluster to be adjusted quickly and easily.
- **Compatibility** to most of the applications that are designed for Windows, including applications that do not work with Terminal Server.
- **Fast and simple** installation.
- **Default configurations:** Enable work to be started immediately.
- **Simple management tools.**



Basic principles

- *SoftXpand* software is designed to be transparent to users. Working with *SoftXpand* feels almost identical to working with Windows XP, except for minor differences, such as the Log on screen.
- The host computer may stand alone or be connected to a network. It can be in a workgroup or a domain.
- Users and resources configurations are managed with standard Windows tools and should be set prior to starting *SoftXpand*.
- Major computer changes, such as hardware/drivers installation/uninstallation, should be performed on Windows while *SoftXpand* isn't running. In some cases it is advised to re-install *SoftXpand*.
- On shared computers in public places it is advised to use additional tools to offer protection and recovery abilities in cooperation with *SoftXpand*.

User privacy and security settings

- Each user has a personal user profile. Each user has a private desktop and a personal 'My Documents' folder.
- The access permissions each user has to various computer and network resources is determined by the operating system and the standard Windows security settings tools.

Application compatibility

- *SoftXpand* runs standard applications simultaneously and independently on all workstations.
- *SoftXpand* can run heavy duty applications that demand a lot of computer resources in a more balanced way than Windows. High graphical performance applications (3D, games) that are programmed to use the video card processing power (GPU), will not be permitted to take control over the main computer resources, thus freeing up shared CPU and memory resources for the use of other workstations.
- The balancing system enables using heavy duty applications in several workstations in the cluster.



Software license

- It is in your responsibility to review the licenses of the software to be installed on your *SoftXpand* host and to act accordingly.



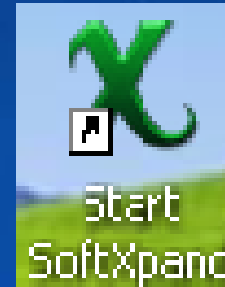
2. The

SoftXpand

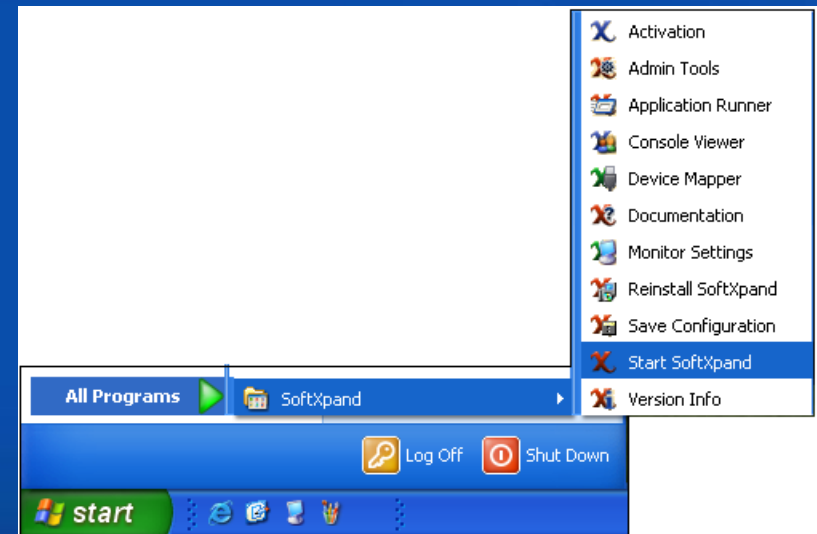
look and feel

Manual *SoftXpand* startup

- An administrative user logs on to Windows and double clicks on the **Start *SoftXpand*** desktop icon.



- You can also start *SoftXpand* from the Start menu.
- The path:
Start > AllPrograms > *SoftXpand* > Start *SoftXpand*



Automatic *SoftXpand* startup

The computer administrator can configure *SoftXpand* to start automatically as soon as Windows finishes its startup.

The monitors of the workstations show the *SoftXpand* Welcome screen during startup.



SoftXpand startup

- The Windows Log on dialog will appear for a few seconds during the *SoftXpand* startup.
- Disregard it to let *SoftXpand* continue its startup.

The Log on

When *SoftXpand* is ready, all the monitors will display the *SoftXpand* Log on dialog.

Logon. Please enter You name, password and choice domain. Monitor 1

SoftXpand™
Copyright © 2005-2007



User name:

Password:

Domain:

Language: English



 **Please note !**

If Your mouse and/or keyboard don't work press CTRL+SHIFT+F1 and then click left and right mouse buttons simultaneously.

Log on to SoftXpand

- Type in your user name and password.
- Choose the appropriate computer name / domain from the drop down list.
- Press OK.



Logon. Please enter You name, password and choice domain. Monitor 1

SoftXpand™

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MiniFrame
Doing more with less


User name:

Password:

Domain:

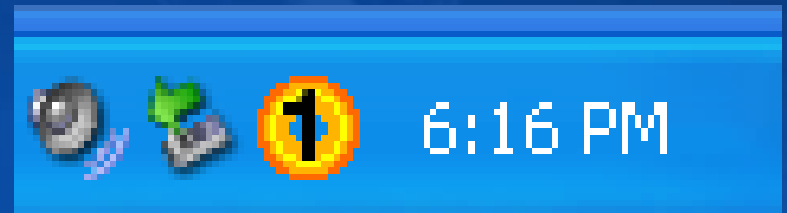
Language:



 **Please note !**
If Your mouse and/or keyboard don't work press CTRL+SHIFT+F1
and then click left and right mouse buttons simultaneously.

Optionally assign a sound device to a workstation

- The taskbar icon that shows the monitor number is also used to map sound.
- Right click on the icon.
- A dialog opens where you can choose a sound device from a list of available devices that are installed on the host.
- Choose a device, click Test to check it and then click OK.



Display settings

- Display settings can be changed while *SoftXpand* is running
- Changing the display settings will force a user to log off so save all open documents. (The user will receive a warning message)



Log off SoftXpand

- You can log off from the start menu or by a Ctrl + Alt + Del combination as it is done on Windows.
- The Log on dialog appears after logging off.

Exit *SoftXpand* and return to Windows

- Click Exit on the *SoftXpand* Log on dialog and confirm the warning message to exit *SoftXpand* on all workstations.
- All monitors will show the Exit screen.



- After *SoftXpand* exits, the primary monitor will show the Windows standard Log on dialog.

Two SoftXpand workstations in work.

Each workstation functions as an independent Windows XP computer.





3. Preparing the Hardware

Minimum hardware requirements for a two workstation *SoftXpand* setup.

- CPU - Intel® Pentium® 4 1300 MHz or equivalent AMD processor
- Memory - 256 MB of physical memory
- PCI slot - at least one available
- Power supply - at least 300 W
- USB port - at least one available
- Display card(s) - at least one dual display card that supports Windows XP Multiple Monitors, or two single display cards

Recommended hardware configurations

- **Motherboard**

A dual or quad processor motherboard. Consider choosing one that will enable future upgrades according to changing needs. The number and the type of slots must match the cards that will be installed.

- **Processor**

At least a 2.4GH dual core processor.

- **Memory**

1GB or more. Not less than an average of 256MB per each workstation in the cluster.

- **Power supply**

Up to 3 workstations - 300W

Up to 6 workstations - 500W

Up to 8 workstations - 750W



Recommended hardware configurations

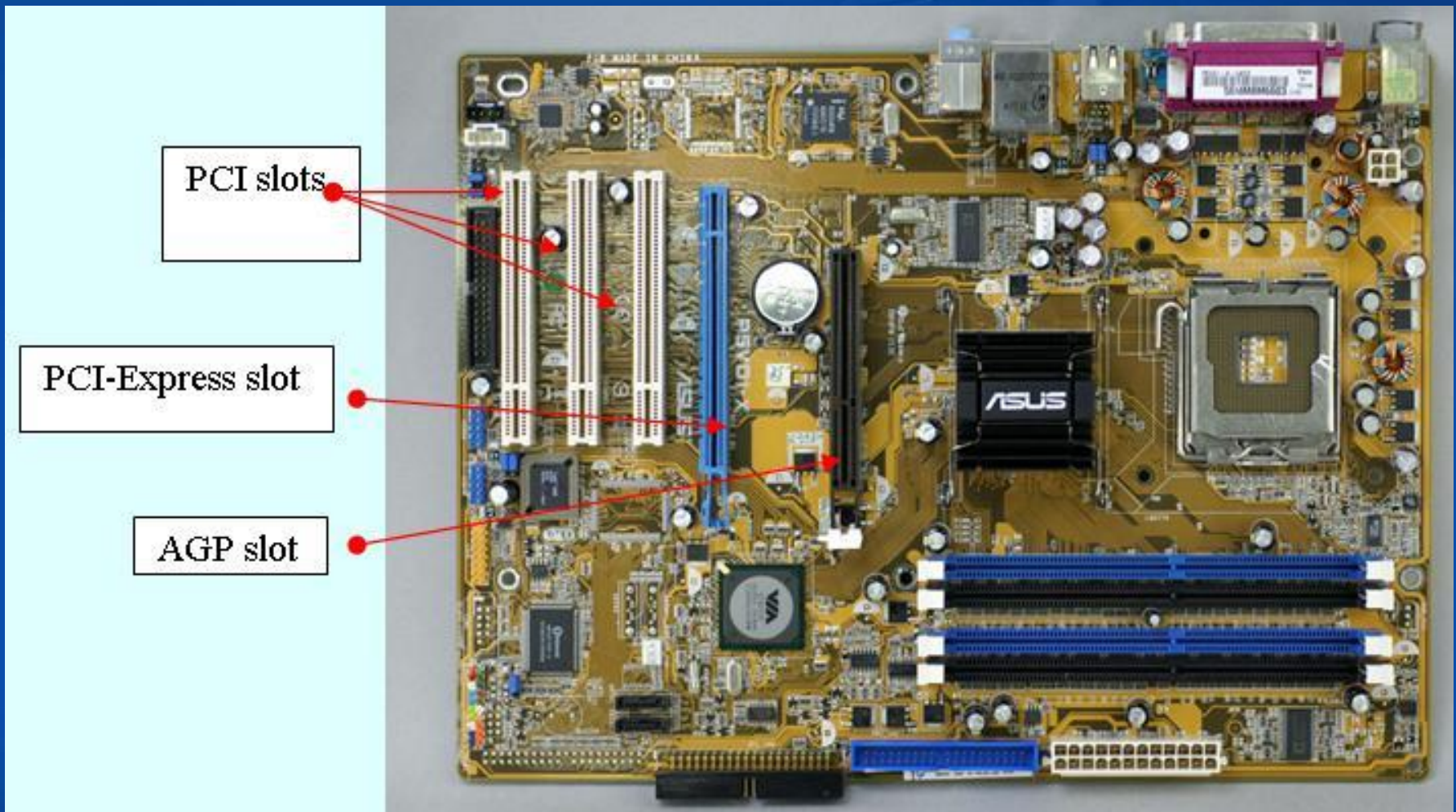
• Video cards

- The number of ports must match the number of workstations installed in the cluster.
- Using dual cards is recommended. This will enable using less slots on the motherboard.

Example: A motherboard with a built-in dual video card + one PCI Express slot + two PCI slots can host eight workstations.

- *SoftXpand* reaches optimal performance with NVIDIA cards and can also work with other current cards.
- If a TV port card is installed - a TV can be connected to a workstation instead of a monitor.
- DVI cables are limited to up to nine meters by definition. To make the right decisions about video cards, consider the physical deployment distances (Host to workstation).

A motherboard with three types of slots.





Recommended hardware configurations

● USB connections

- All the keyboards and mice will have USB connectors. One set of PS2 keyboard and mouse can be connected to the nearest workstation to the host.
- Standard current motherboards have 6-8 USB ports. It is recommended to use several ports on the host, but it is also possible to use only one port and to extend the number of ports in the USB deployment by using hubs.
- It is recommended to use an active (self powered) USB hub for connecting the keyboard and mouse at the end point connection. Two workstations can share one standard four port hub.
- To enable adding a USB sound device and a DiskOnKey drive to each workstation, place an active hub next to each workstation.

Hardware installation

- Installation is simple and easy. It consists of adding video cards and deploying the cables.

Demonstration: preparing a computer to install a two workstation cluster.

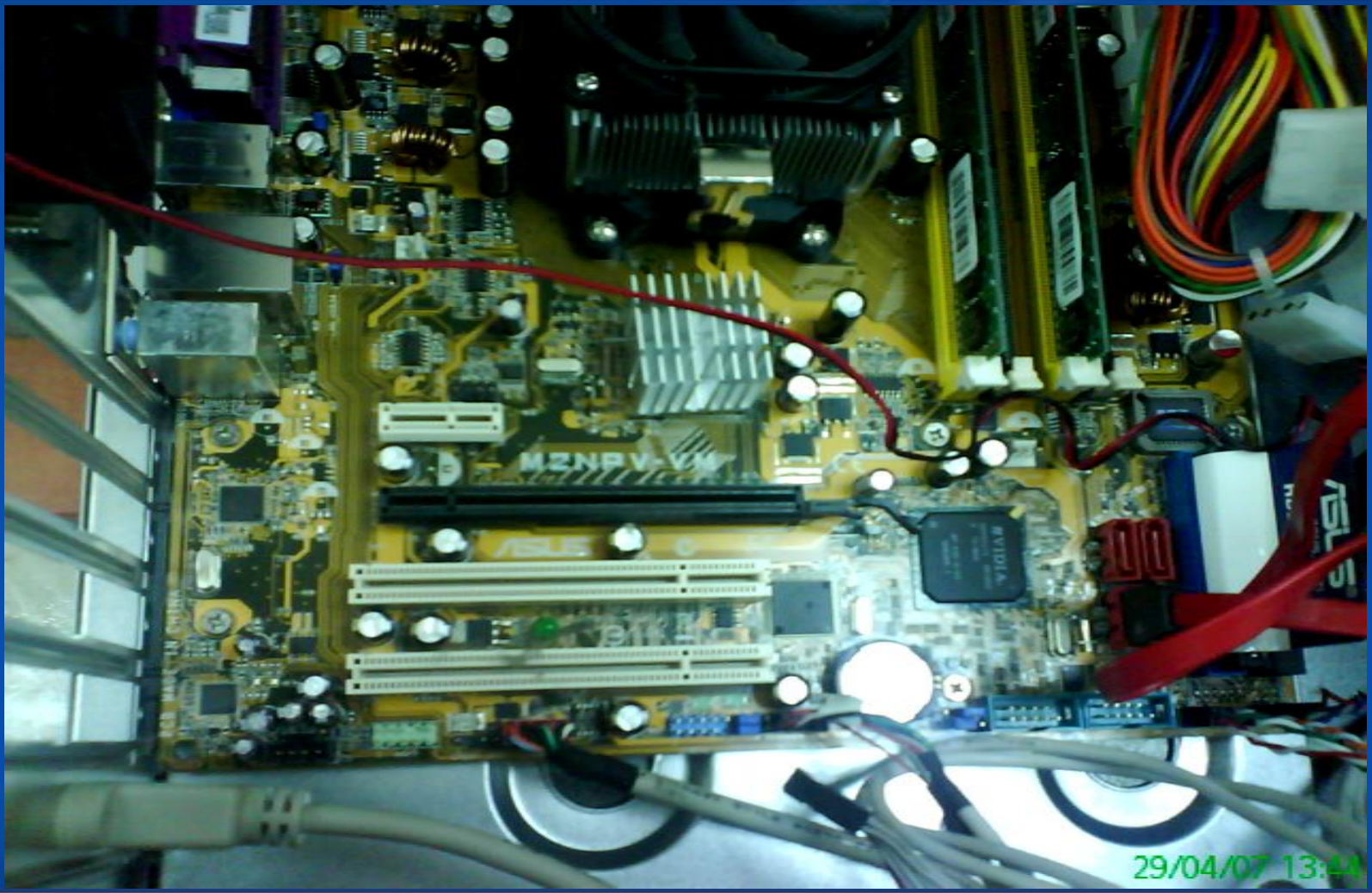
In principle, the same procedure applies for installing up to 8 workstations.

● Technical specifications:

- Motherboard - Asus M2NPV-VM
- A built -in NVIDIA GeForce6150 dual video card with VGA + DVI ports.
- A built-in SoundMAX ADI1986A sound device.
- A PCI-Express ,NVIDIA GeForce 7300GS dual video card with VGA + DVI ports.
- A USB sound device.
- One active USB hub for one workstation.



The motherboard has two PCI-Express (X1, X16) and two PCI slots.

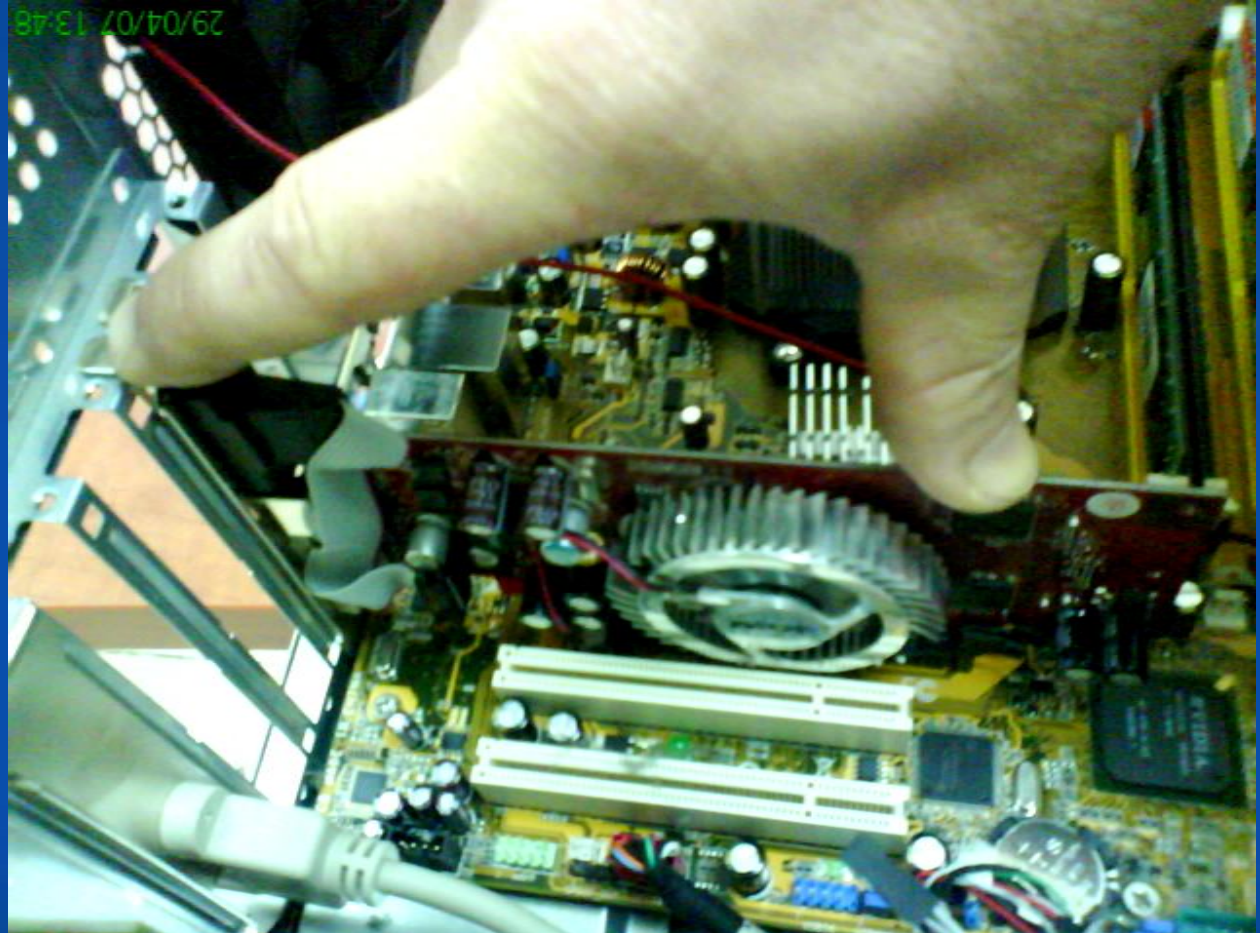


The rear panel shows a VGA and a DVI video ports.



Installing a video card

- The video card is inserted into the appropriate slot.
- It is important to read the card's manufacturer instructions and to follow them.



Installing a video card

The card is fastened to the chassis with a screw.



If the card also has a cable, connect it to the motherboard according to the manufacturer instructions.



The rear panel is now showing the added card.



The host is positioned in its place.

The cables to the monitors and the peripheral devices are connected.





The workstations

- One workstation consists of a monitor, PS2 keyboard + mouse and is connected to the PCI-Express VGA port.
- The other workstation consists of a monitor, USB keyboard + mouse and is connected to the built-in video card.



The workstation also has a USB sound device and a DiskOnKey drive, connected together with the keyboard + mouse to an active USB hub.



Starting the computer after installing the hardware

- The computer is turned on. All the monitors should show the beginning of the startup process.
- In case some of the monitors do not work, enter the BIOS/CMOS and change settings to enable all monitors.
- If there are still problems, re-check the cabling connections and consult your vendor.
- Check to make sure all the keyboards and mice function. If not, re-check the cabling connections and consult your vendor.



4. Pre installation Software configurations

Operating system

- *SoftXpand* is designed to work on one of the following platforms:
- Microsoft Windows XP Professional SP2
- Microsoft Windows XP Media Center SP2
- Microsoft Windows XP Tablet PC SP2

Users and user configurations

- All installations and configurations must be performed by an administrative user on the host computer.
- If the computer is in a domain environment, domain users can work on it as usual in Windows.
- If you want to configure local users on the host, do it from Windows before starting *SoftXpand*.
- Users must have a password of at least one character.
- Passwords must be fixed. Make sure the users are not ordered to change password at log on.

Updates and installing drivers

- The operating system should have all current Microsoft updates. It is advised to configure automatic updates.
- Following the installation of a new video card and a computer startup - Install the most updated driver from the CD that came with the card or from the manufacturers web site.
- Normally you need to restart the computer after the driver is installed.

Multi monitoring settings

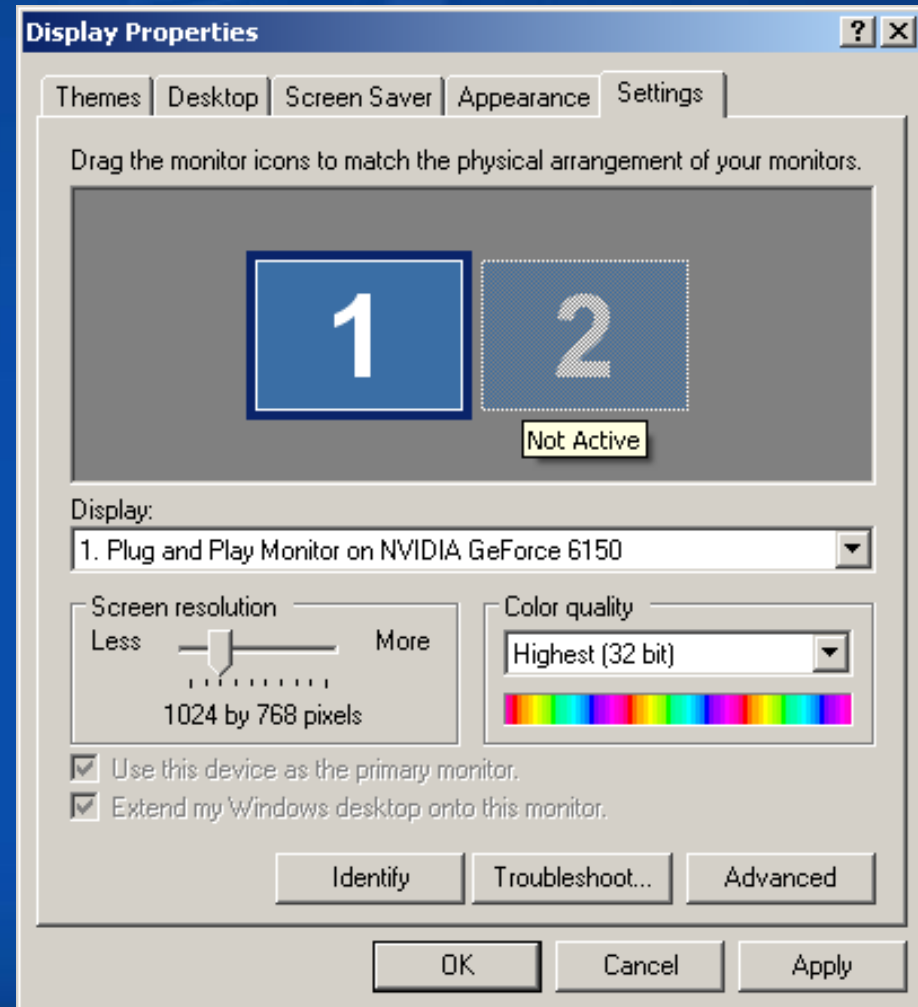
- Use the Windows display settings to extend the desktop to all monitors.

In principle, the same procedure applies for installing up to 8 workstations.

Multi monitoring settings

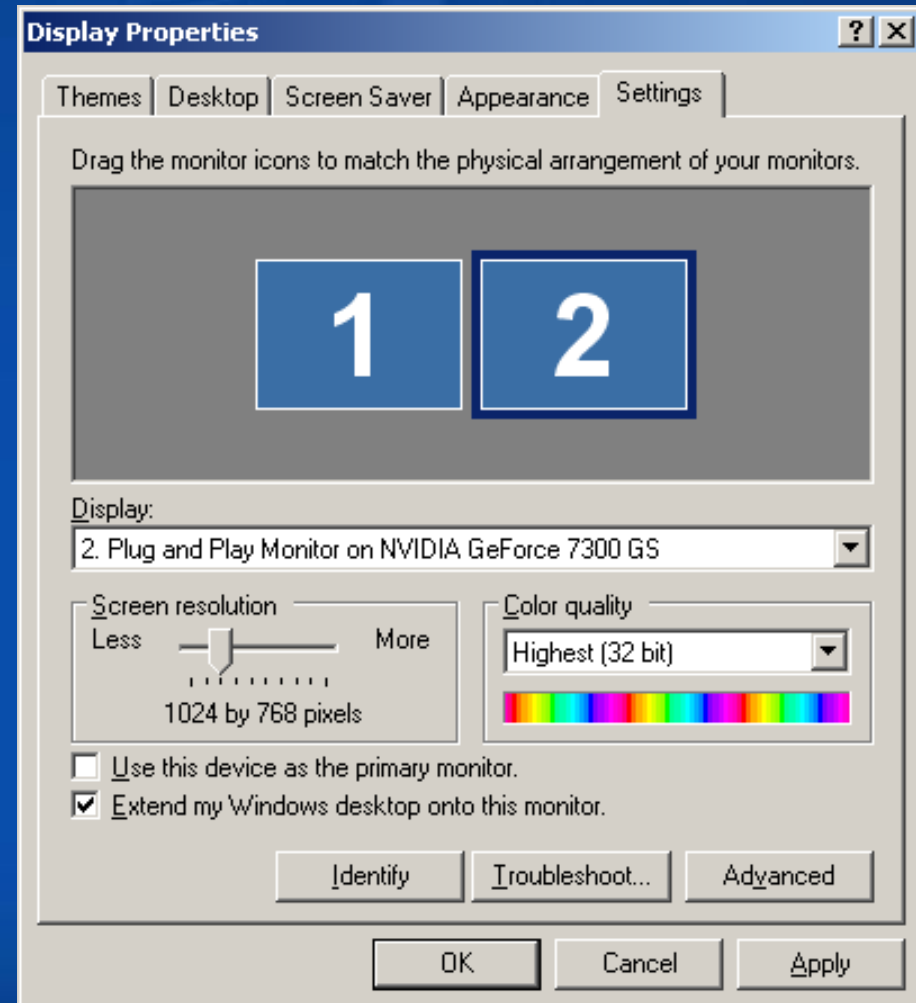
Enter the Display properties settings tab.

Click the mouse on one of the grey monitors in the window that shows icons to represent the monitors.



Multi monitoring settings

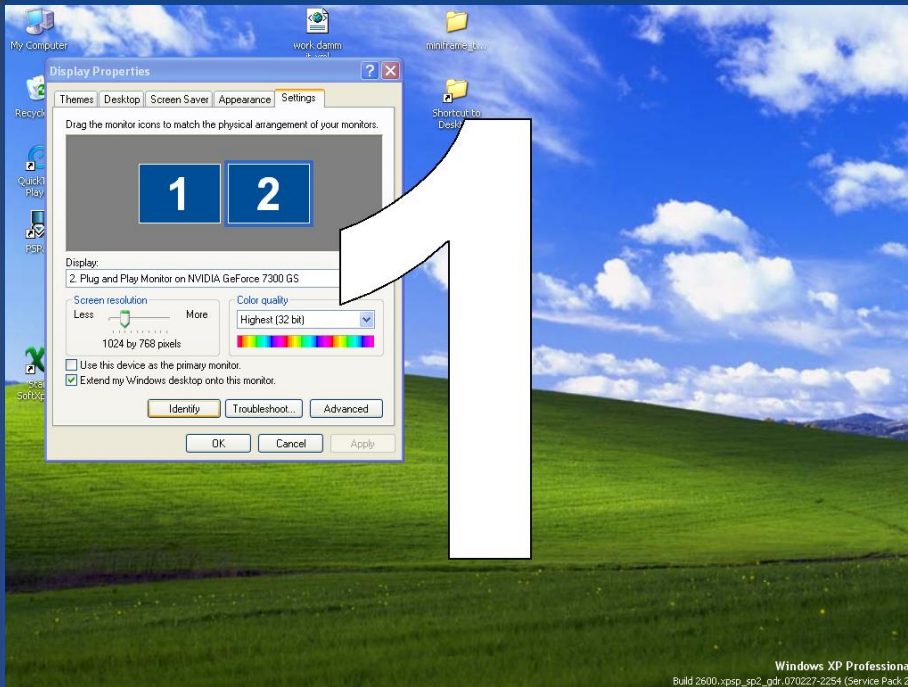
Mark the “Extend my Windows desktop onto this monitor” check box and click Apply.



Multi monitoring settings

- The monitor that was added to the desktop will turn on and will show the same background as the primary monitor. You will be able to move the mouse to the added monitor.
- Repeat the same action for every monitor that has been added. The final result will be that all monitors are a part of a one extended desktop.
- Click on the **Identify** button. Each monitor should show a large white digit.
- Each monitor must show a unique digit that does not appear on any other monitor in the same cluster.

Multi monitoring settings



Windows XP Professional
Build 2600.xpsp_sp2_gdr.070227-2254 (Service Pack 2)



Windows XP Professional
Build 2600.xpsp_sp2_gdr.070227-2254 (Service Pack 2)

Multi monitoring settings

- The multi monitors feature is set.
- In case you encounter difficulties, consult your vendor.
- It is also advised to go to the Microsoft web site and to look for information using the following expression:

Multiple Monitors overview



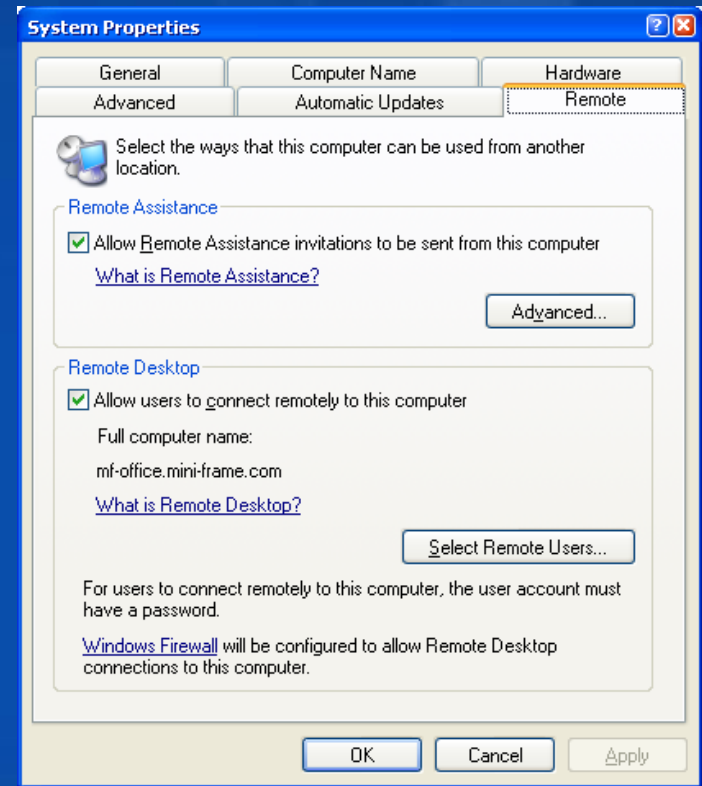
Changing the display settings

- The display settings can be changed for each monitor while working with *SoftXpand* but the user will have to log off to complete the change.
- This is why it is recommended to choose the appropriate display settings on Windows prior to starting *SoftXpand*.

Remote assistance and remote desktop

- The remote features must be marked and active.
- Further information can be found in the Microsoft web site. Look for:

Get started using Remote Desktop with Windows XP Professional



Best practices

- Make sure your Windows operating system is in perfect working condition.
- Use tools to verify that there are no viruses, malware or spyware on your computer.
- Back up your computer system. A backup procedure is always recommended prior to any new installation.
- Consider using disk protection and recovery tools.



5. Installing and activating SoftXpand

- In principle, the same procedure applies for installing up to 8 workstations.
- If you are using a trial version, You can install up to 3 workstations. Skip the activation process. The trial version will run for 80 working hours.

Installation

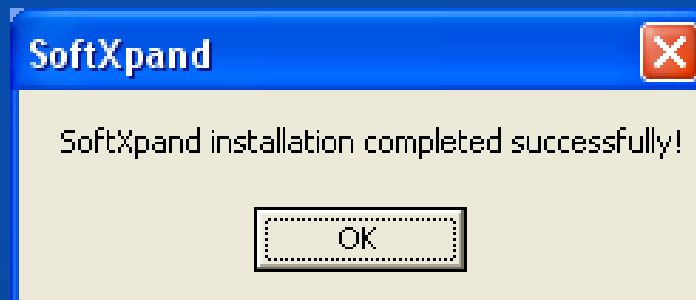
- Download the installation file from:
www.miniframe.com
- Double click the on the file to start installing.
- Follow the installation wizard instructions.
- Click Finish to complete the installation and to restart the computer.





Installation

- When the computer starts after completing the installation, only the monitor that was assigned primary will turn on. All the other monitors will remain off.
- When *SoftXpand* has been started, all the monitors will be turned on.
- The *SoftXpand* default setting is to be started manually. An automatic startup can be configured.
- Log on to Windows. A message will appear to confirm the successful *SoftXpand* installation. Click on **OK**.

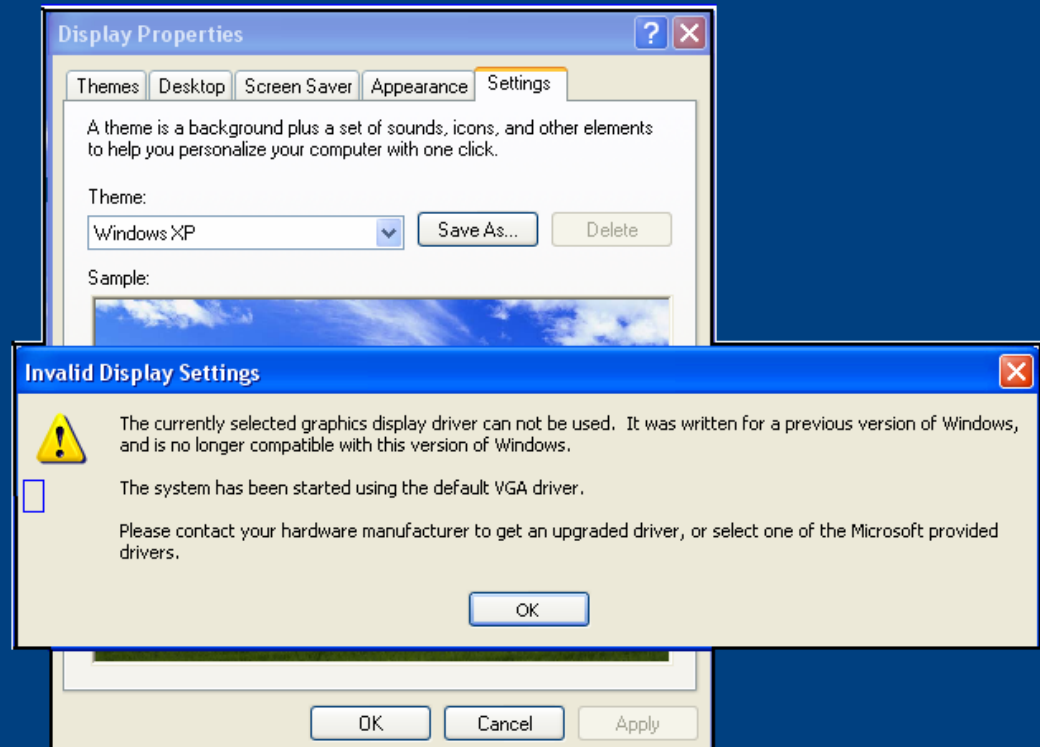


Display properties

After the *SoftXpand* installation is finished, upon entering the Windows display properties Settings tab, an error message will pop up. It says: “**Invalid Display Settings**”.

This is normal and is a result of the *SoftXpand* virtual display driver.

Click on **OK** to enter the Settings tab.





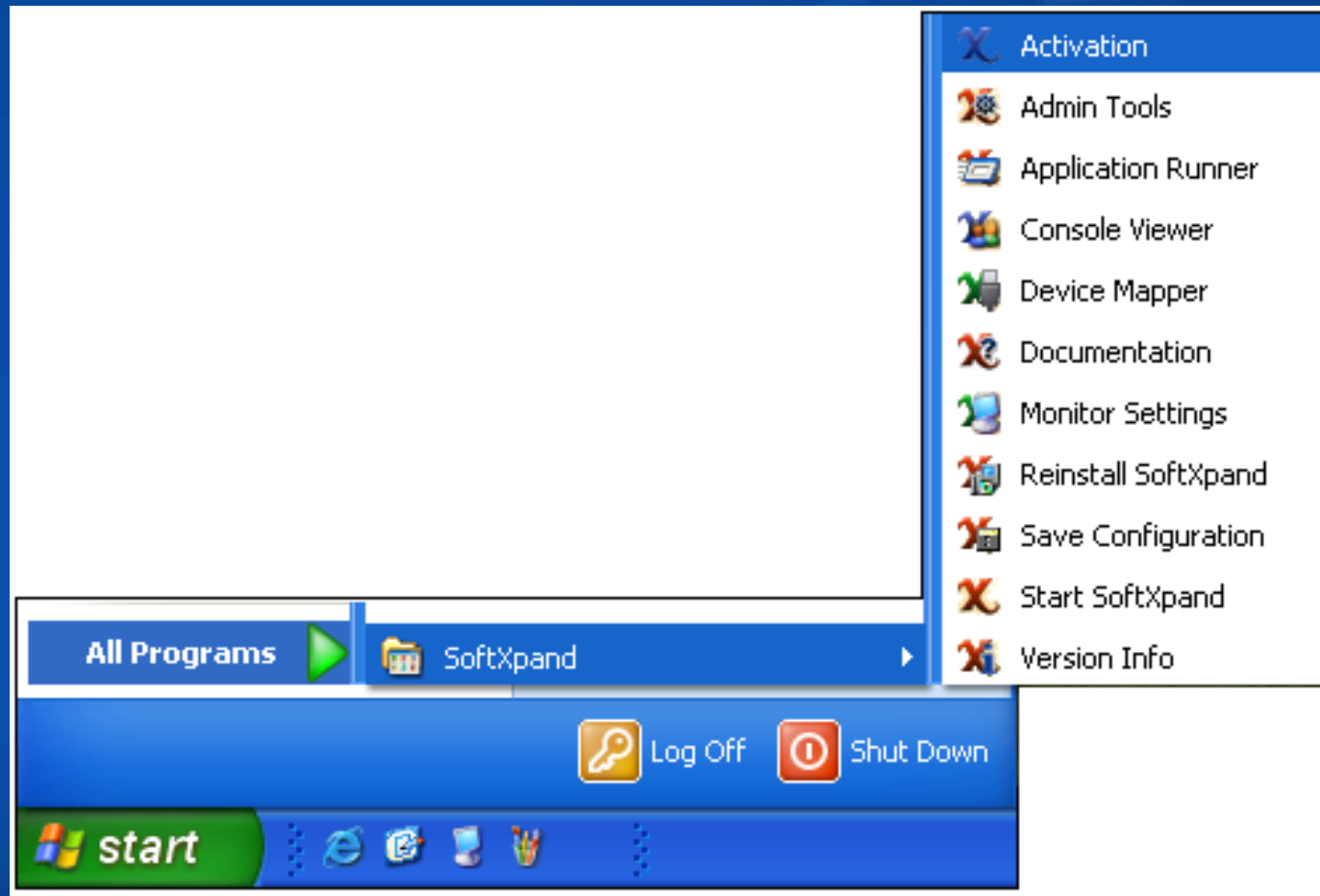
Activation

- If you are using a trial version, skip this process. The trial version will run for 80 working hours.
- Have the serial number at hand.
- Verify that the number of connected workstations in the *SoftXpand* cluster matches your purchase agreement.



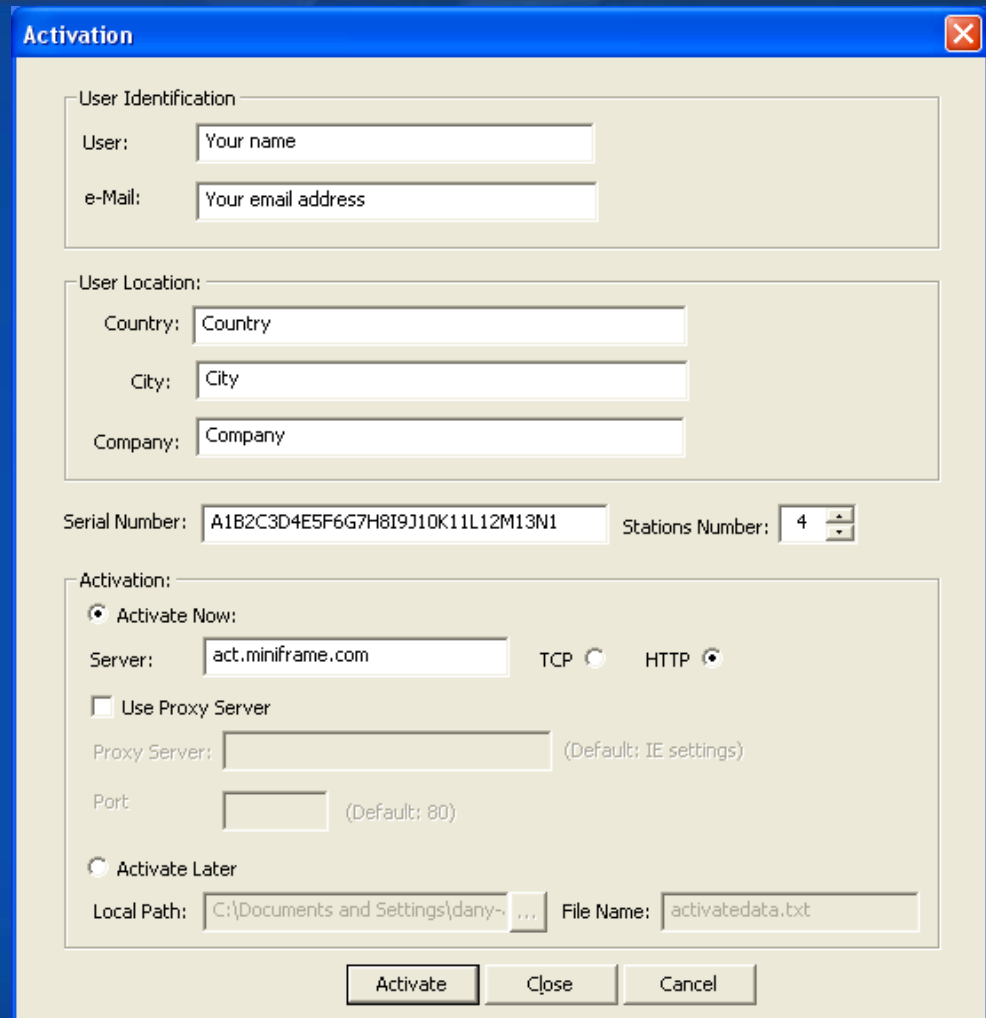
The activation path:

Start > All Programs > *SoftXpand* > Activation:



Activation

- Type the required information
- Click on the **Activate** button.
- A confirmation message will appear after a few seconds.
- Click on **OK**. *SoftXpand* is now registered and activated.



The screenshot shows the 'Activation' dialog box with the following fields and options:

- User Identification:**
 - User:
 - e-Mail:
- User Location:**
 - Country:
 - City:
 - Company:
- Serial Number: Stations Number:
- Activation:**
 - Activate Now:**
 - Server: TCP HTTP
 - Use Proxy Server**
 - Proxy Server: (Default: IE settings)
 - Port: (Default: 80)
 - Activate Later**
 - Local Path: File Name:

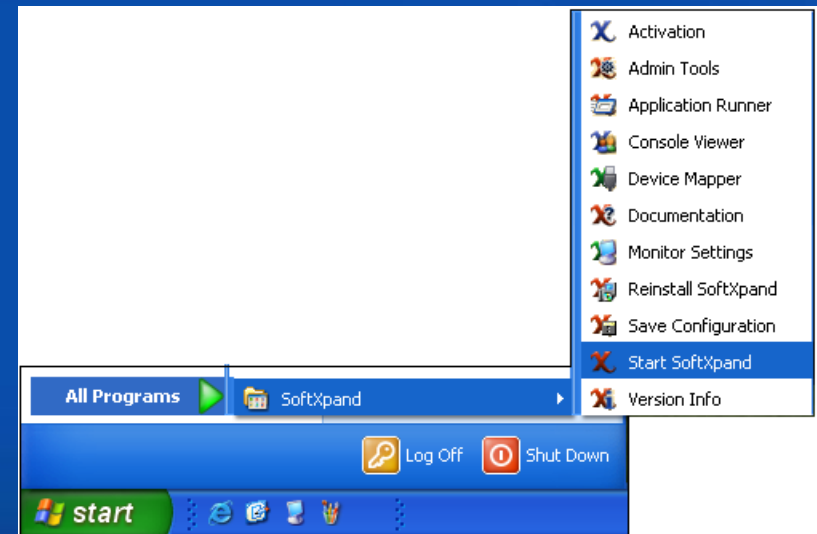
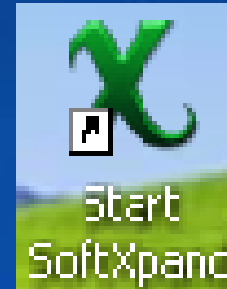
Buttons:



6. *SoftXpand* startup and basic settings.

Manual *SoftXpand* startup

- An administrative user logs on to Windows and double clicks on the **Start *SoftXpand*** desktop icon.
- You can also start *SoftXpand* from the Start menu.
- The path:
Start > AllPrograms > *SoftXpand* > Start *SoftXpand*



Automatic *SoftXpand* startup

The computer administrator can configure *SoftXpand* to start automatically as soon as Windows finishes its startup.

The startup process

- The Windows Log on dialog will appear for a few seconds during the *SoftXpand* startup.
- Disregard it to let *SoftXpand* continue its startup.

The startup process

The monitors of the workstations show the *SoftXpand* Welcome screen during startup.



The startup process

When *SoftXpand* is ready, all the monitors will display the *SoftXpand* Log on dialog.



The screenshot shows a logon dialog box titled "Logon. Please enter You name, password and choice domain. Monitor 1". The dialog features the "SoftXpand" logo and "MiniFrame" branding. It includes input fields for "User name", "Password" (masked with dots), and a "Domain" dropdown menu set to "SUPPORT-1 (This computer)". There is also a "Language" section with "English" selected and navigation arrows. At the bottom, there are "OK" and "EXIT" buttons, along with a help icon.

Please note !

If Your mouse and/or keyboard don't work press CTRL+SHIFT+F1 and then click left and right mouse buttons simultaneously.

The startup process

- At this stage, all the keyboards and mice will not respond.
- A simple assigning process is needed to assign keyboards and mice to their matching monitors in order to configure the workstations.



Assigning keyboards and mice to their matching monitors

- Each workstation must have a set of monitor + keyboard + mouse.
- To assign a keyboard and mouse to the corresponding monitor for each workstation, press a combination of three keyboard keys followed by immediately clicking both mouse buttons at the same time.
- The number of the monitor is specified at the top of the *SoftXpand* Log on dialog as "Monitor #".
- On the keyboard, hold down the **Ctrl + Shift + F#** function key. The number of the function key should be the same as the monitor number.
- For example, for monitor 2, press **Ctrl + Shift + F2**.
- Release the keys and immediately click the left and right mouse buttons once at the same time.
- **Now you should be able to move the mouse cursor and to type.**

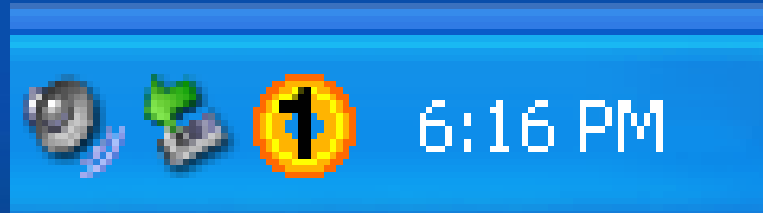


Assign all workstations using the same method



Assigning a keyboard and mouse while working on SoftXpand

- If you replace or add an additional keyboard or mouse to the system while working in *SoftXpand*, then you need to assign them.
- You can do this while working, without logging off.
- In order to press the correct function key (F#), however, you will need to know the monitor number. This number is displayed at the bottom right corner of the screen as one of the system tray icons

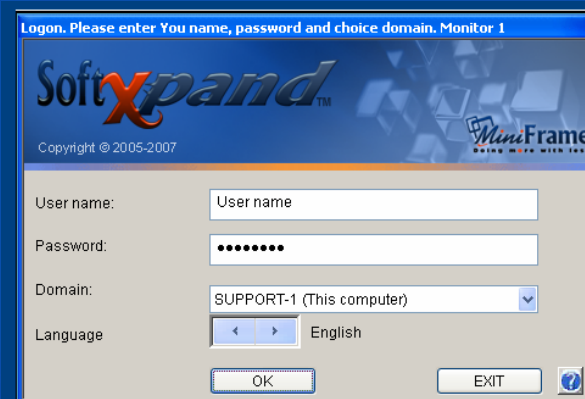


Log on to SoftXpand

- Type your user name and password.

Choose the appropriate computer name / domain from the drop down list.

- Press OK.



The screenshot shows a login dialog box titled "Logon. Please enter You name, password and choice domain. Monitor 1". The dialog features the SoftXpand logo and the MiniFrame logo. Below the logos, there are four input fields: "User name" (text box), "Password" (password box with dots), "Domain" (dropdown menu showing "SUPPORT-1 (This computer)"), and "Language" (dropdown menu showing "English"). At the bottom, there are "OK" and "EXIT" buttons, and a help icon.

Please note !

If Your mouse and/or keyboard don't work press CTRL+SHIFT+F1 and then click left and right mouse buttons simultaneously.

The Log on dialog

Logon. Please enter You name, password and choice domain. Monitor 1

SoftXpand™

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User name:

Password:

Domain:

Language English

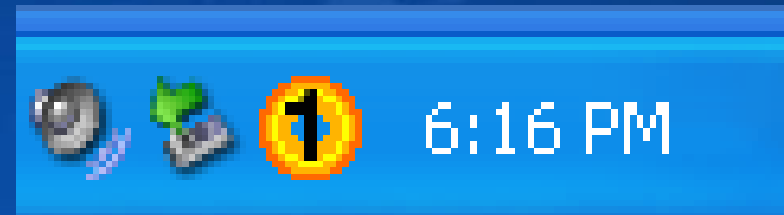


 **Please note !**

**If Your mouse and/or keyboard don't work press CTRL+SHIFT+F1
and then click left and right mouse buttons simultaneously.**

Assigning a sound device to a workstation

- Make sure the sound device is configured on Windows and works on Windows before assigning it to a *SofXpand* workstation.
- The SoftXpand taskbar icon that shows the monitor number is also used to assign sound devices.
- Right click on the icon.
- A dialog box appears.
- Choose the appropriate sound device from the list of available devices.
- Click **Test** to check it and then click on **OK**.





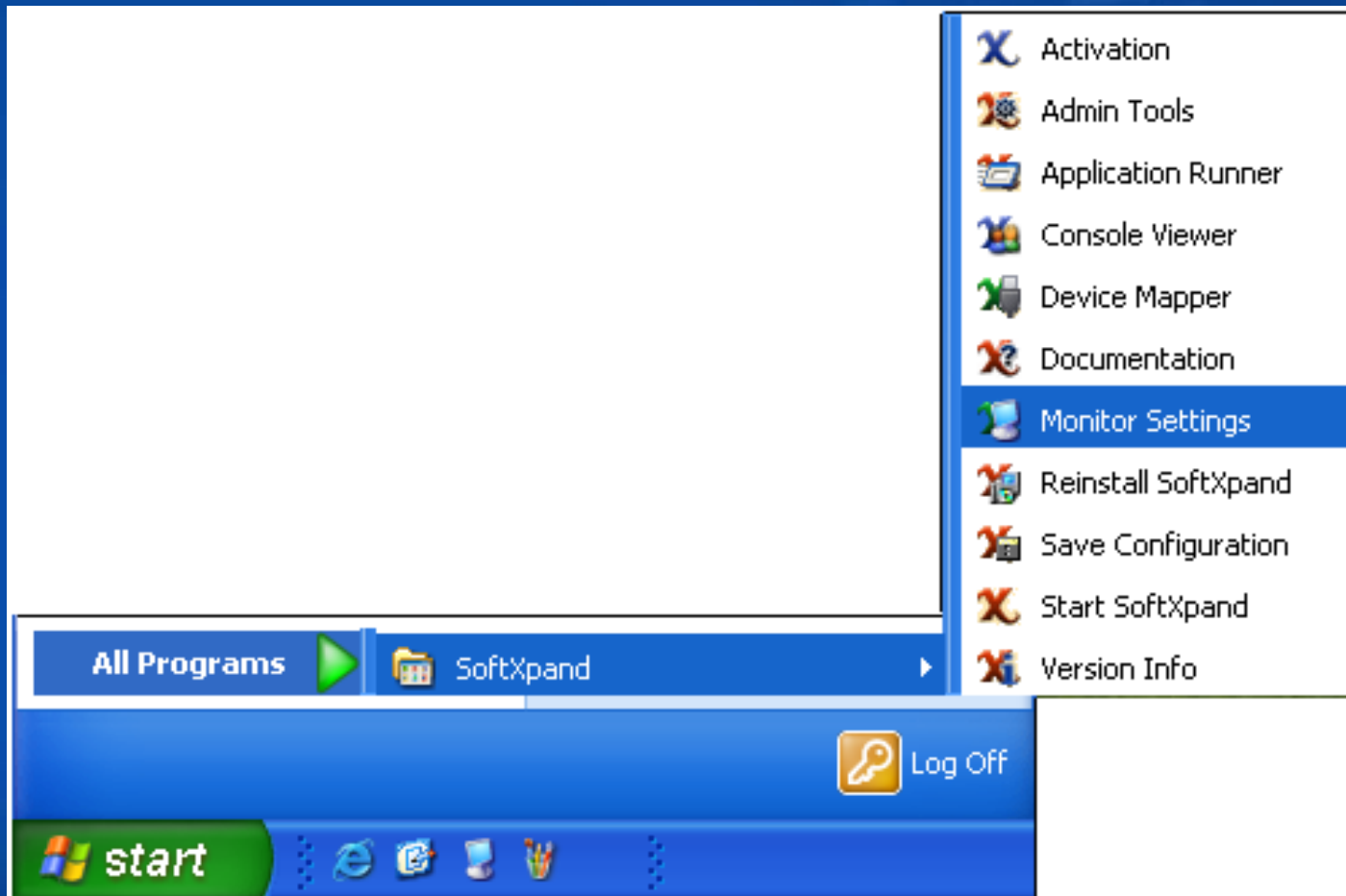
Changing display settings while working with SoftXpand

- Be sure to save your work and close all applications, because you will have to log off to complete the display changing process.



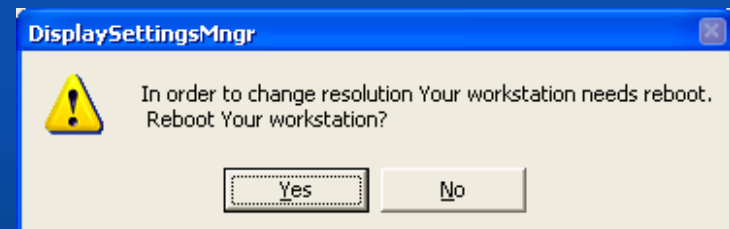
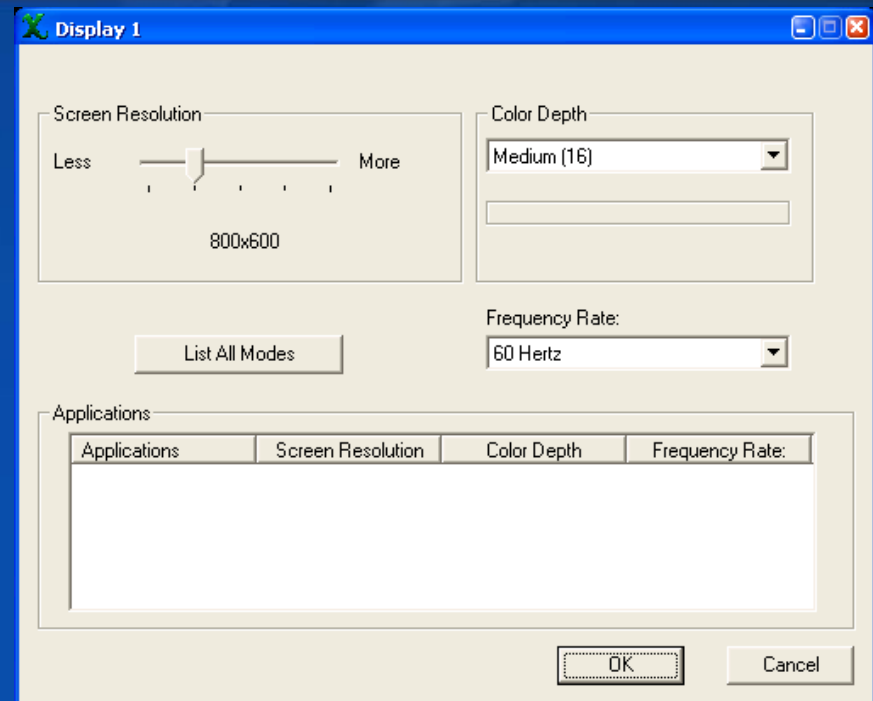
The Monitor settings path:

Start > All Programs > *SoftXpand* > Monitor Settings



A display settings dialog box appears.

- Choose the setting you want and click **OK**.
- A confirmation dialog box will notify you that you will be automatically logged off for the new display settings to be changed. Save any open documents.
- Close all applications and click on **Yes**.
- The system will log off. The Log on dialog will appear under the new display settings.





Log off SoftXpand

- You can log off from the start menu or by a Ctrl +Alt + Del combination as it is done on Windows.
- The Log on dialog appears after logging off.

Exit *SoftXpand* and return to Windows

- Click Exit on the *SoftXpand* Log on dialog and confirm the warning message to exit *SoftXpand* on all workstations.
- All monitors will show the Exit screen.



- After *SoftXpand* exits, the primary monitor will show the Windows standard Log on dialog.

Password protected Log off and SoftXpand Exit

- The system administrator can set passwords to allow these actions to authorized users only.



The screenshot displays the SoftXpand application window. At the top, the 'SoftXpand' logo is prominently featured in a stylized font, with 'Soft' in blue and 'xpand' in red. Below the logo, the copyright notice 'Copyright © 2005-2007' is visible. To the right of the logo, the 'MiniFrame' logo is present, accompanied by the tagline 'Doing more with less'. The main interface area contains several interactive elements: a 'Logoff password:' label followed by a text input field and a 'Log Off' button; a row of four buttons labeled 'Task manager', 'Lock workstation', 'Help', and 'Cancel'; and an 'Exit password:' label followed by another text input field and an 'Exit' button.



Detailed information about
SoftXpand and its advanced
management tools may be found
at:

www.miniframe.com