Quick Reference Guide

HP Digital Signage Player MP6 and MP4
Microsoft® Windows Embedded Standard 7

About this book

This guide supplements the standard Windows Embedded Standard (WES) documents supplied by Microsoft Corporation. This document highlights the differences, enhancements, and additional features provided by the latest image of your digital signage player.

⚠ **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

⚠ **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

📝 **NOTE:** Text set off in this manner provides important supplemental information.

Table of contents

1   For more information and updates

HP updates

HP provides periodic updates and add-ons for digital signage player images. Check the HP support site at http://www.hp.com/support for updates and add-ons that apply to your image version. Select the country/region from the map, then select **Drivers & Software**. Type the digital signage player model in the field and click **Search**.

For more information

For important documentation that provides specific information for your image version, check the HP support site at http://www.hp.com/support. Select the country/region from the map, and then select **Product Support & Troubleshooting**. Type the digital signage player model in the field and click **Search**.

2   Introduction

This guide provides information pertaining to HP digital signage player models that use the Windows®
Embedded Standard (WES) 7 P operating system.

- Flexible

    ◦ Win32-based application support

- User interface similar to familiar Windows 7 desktop

- Improved security

    ◦ Microsoft® Firewall

    ◦ Locked down protected flash drive (on MP4) or hard drive (on MP6)

- Multimedia

    ◦ Windows Media Player

- Internet browsing

    ◦ Windows Internet Explorer

- Extensive Multilingual User Interface (MUI) support

HP provides this client "ready to go" out of the box to meet most common customer requirements.
You may want to add/remove features using the Programs and Features control panel applet or the
add-ons provided on the HP support site to customize it to specific needs.

This guide will introduce you to the features of this client that are not found in the standard Windows
operating system.

The desktop

This section provides a general overview of WES 7 user and administrator desktop features and
functions.

User desktop

The desktop that opens when you are logged on as a user is a standard WES 7 desktop. To access
applications, go to the **Start** menu.

For information about the functionality of the standard WES desktop and Start menu items, refer to
the applicable Microsoft documentation: http://msdn.microsoft.com/en-us/embedded/bb981920.aspx

NOTE: The control panel, available by clicking **Start > Control Panel**, provides access to a limited set of resources for changing user preferences. You must log on as Administrator to access the extended set of control panel options and utilities.

Right-clicking the mouse when the pointer is on a user's desktop background does not open a pop-up menu in the default windows policies configuration.

Administrator desktop

The desktop that opens when you are logged on as an administrator is a standard Windows desktop.

NOTE: Right-clicking the mouse when the pointer is on the administrator's desktop background opens a pop-up menu.

3   Configuration

Logging on

You can log on to the digital signage player either automatically or manually.

Automatic logon

The default for the WES-based digital signage player is automatic logon of the Administrator account. The administrator can use the HP Logon Manager in the control panel to enable/disable auto logon and change the auto logon user name, password, and domain. Only the administrator account can change auto logon properties.

The default password for auto logon is `Administrator`.

Enabling automatic logon bypasses the Log On to Windows dialog box.

To log on as a different user while auto logon is enabled:

▲   Press and click **Start > Shut Down > Log Off**.

This opens the Log On to Windows dialog box and allows you to select a different account.

Manual logon

When automatic logon is disabled, digital signage player startup displays the Log On to Windows dialog box. Type the logon information in the **User Name** and **Password** text boxes. Note the following:

- For a user account, the factory-default user name and password are both **User**.

- For an administrator account, the factory-default user name and password are both **Administrator**.

- For security purposes, HP recommends that you change the passwords from their default values. An administrator can change passwords by pressing Ctrl+Alt+Delete to open the **Windows Security** dialog box, and then selecting **Change Password**. You cannot change the password when logged on as a user.

- Passwords are case-sensitive.

- The administrator may create additional user accounts: right-click **Computer**, select **Manage > Local Users and Groups**. However, due to local memory constraints, you should keep the number of additional users to a minimum. For more information, see User accounts on page 8.

Administrator logon access

To access Administrator logon regardless of the state of the digital signage player user mode:

1. Click **Start**.

2. Click **Log Off**.

The screen for Administrator logon is displayed.

NOTE: The default password for the Administrator account is **Administrator**. The default user name and password for the User account is **User**.

You can use the HP Logon Manager to permanently modify the default login user. Located in the control panel, only the Administrator can access this application.

Logging off, restarting, and shutting down the digital signage player

To restart, shut down, or log off from the digital signage player:

1. Click **Start > Shut Down**.

2. From the **Shut Down** dialog box, select the desired action, and then click **OK**.
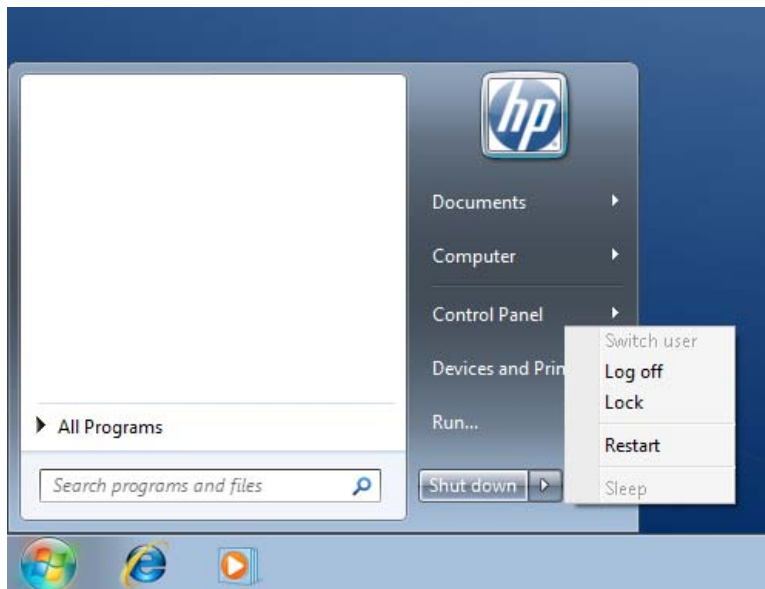
NOTE: You may also log off or shut down using the Windows Security dialog box. Press Ctrl+Alt +Delete to open the dialog box.

If automatic logon is enabled, when you log off (without shutting down), the digital signage player immediately logs on the predefined User account set up in HP Logon Manager. For instructions for logging on as a different user, see Logging on on page 4.

The following utilities are affected by restarting or shutting down the digital signage player:

*   Write filters on page 6

*   System date and time on page 6

Write filters

HP Windows Embedded Standard digital signage players include both the Enhanced Write Filter (EWF) and the File-based Write Filter (FBWF) to protect the operating system. Write filters are disabled by default.

For detailed information, see Enhanced Write Filter Manager on page 16 and File-Based Write Filter Manager on page 19.

System date and time

You can manually set the local time, or you can automatically set the local time utility to synchronize the system clock to a time server at a designated time.
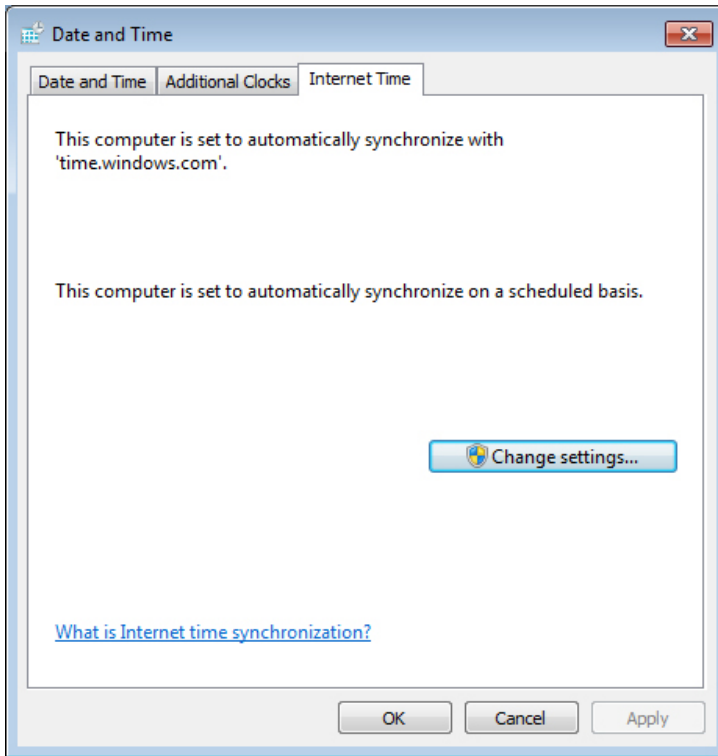
**NOTE:** The Windows Time service is stopped by default. You can start the service via the administrative tools control panel applet. You may want to start the service and maintain correct time because some applications may require access to the local digital signage player time. To open the Date and Time Properties dialog, double-click the time in the task bar or double-click the **Date and Time** icon in the control panel.

▲ Click **Change Settings**.
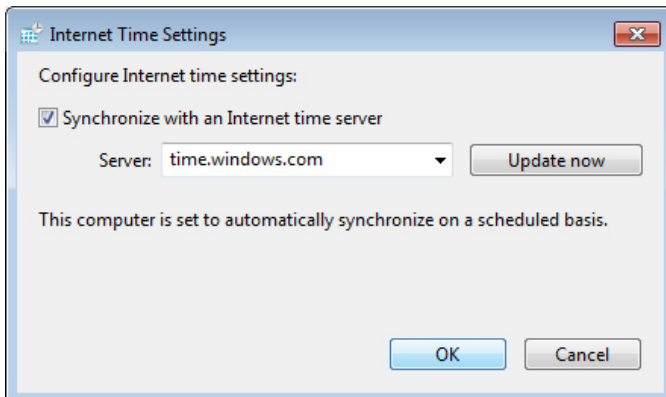
Local drives

The following sections describe the local drives located on the digital signage player.
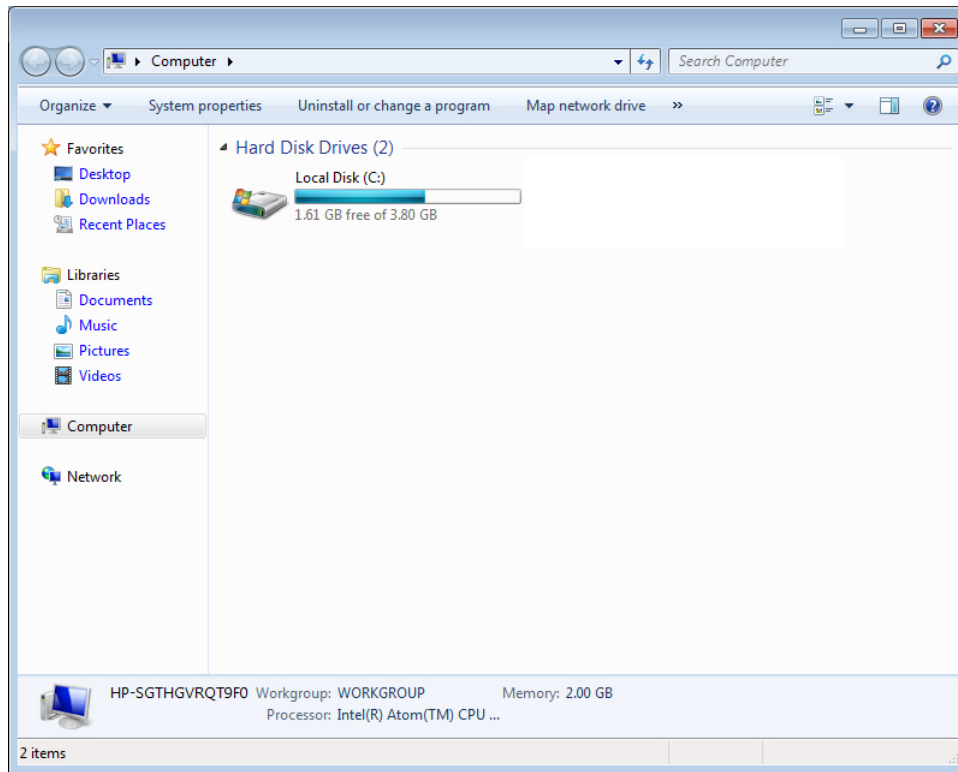
Drive C and flash

Drive C is in the onboard flash drive (MP4) or hard disk drive (MP6). HP recommends that you do not allow the free space on Drive C to drop below 10% of the storage device's size.

⚠ **CAUTION:** If the available free space on the C drive is reduced to below 15 MB, the digital signage player becomes unstable.

User accounts

This section describes how to create a new user account and user profile.

Creating a new user account

You must log on as Administrator to create user accounts locally or remotely. With the MP4 model, due to local flash/disk space constraints, you should keep the number of additional users to a minimum.

Use the User Accounts utility to create new user accounts.

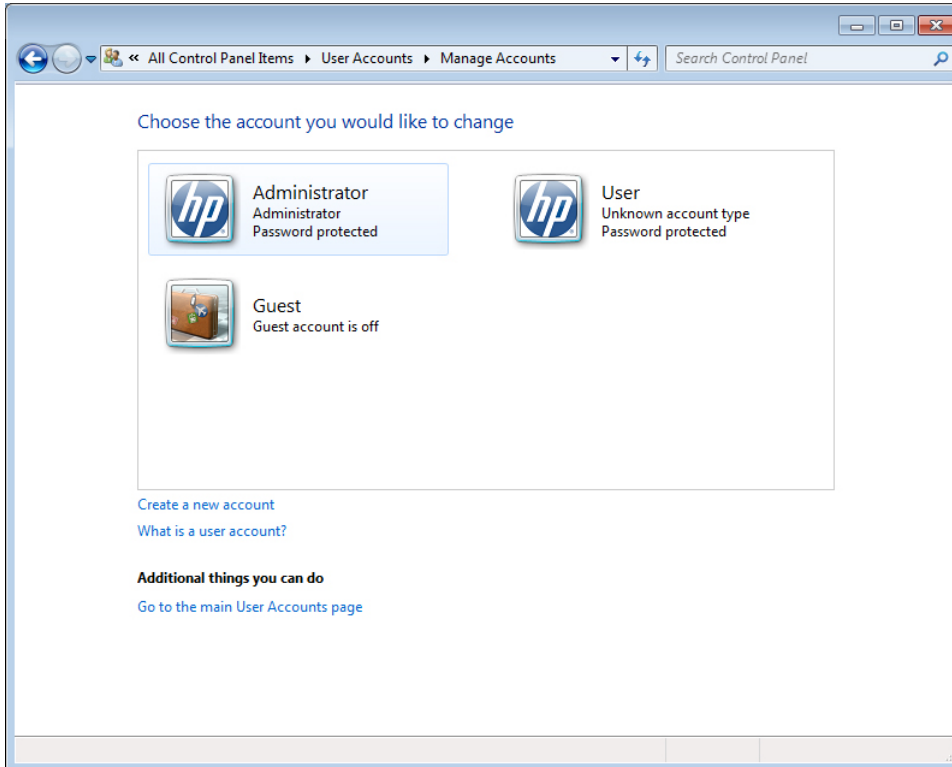To access the User Accounts utility:

▲ Click **Control Panel > User Accounts > Manage Another Account > Create a New Account**.

User Accounts utility

The User Accounts utility allows the administrator to create, delete, and maintain user accounts.

To access the User Accounts utility:

▲   Click **Control Panel > User Accounts > Manage Another Account**.

User profiles

A new user's profile is based on the Default User profile template, which includes policies similar to the factory-defined Administrator account. This new account will default to membership within the local Users group. If the Default User profile settings are changed from those set at the factory, the changed settings are automatically applied to any newly created user profile—local or domain. Any local accounts created or cached domain accounts logged into this device prior to changes made to the Default User profile are unaffected by these changes—only accounts logged in or cached after the changes are affected.

For a new user to match the characteristics of the predefined User account, the Administrator must add the new user to the Power Users group. The user's actions are still limited while the user is in the Power Users group. The Administrator may also want to apply specific Windows policies to the new account to restrict certain actions or behaviors.

To create a user profile:

1.   Log on as Administrator.

2.   Click **Start > Control Panel > User Accounts**.

3.   Select **Manage Another Account** to open the **Manage Accounts** window.

4. Select **Create a New Account**.

5. Type in the user name, and then select **Standard User** or **Administrator**.

6. Click **Create Account** and follow the on-screen instructions.

The newly created user is now a member of both the Power Users and Users groups and will have Windows policies applied similar to that of the Administrator account. It may be desirable to apply specific Windows policies to limit the capabilities of this new account.

To edit a user account, select **User** in the **Manage Accounts** window.

Regional and language options

The keyboard language options are preset at the factory. Should you need to make a change, the keyboard language selection is made through the **Region and Language** selection in the control panel. From this program, you can select the type of keyboard you are using as well as the layout/ Input Method Editor (IME) settings.
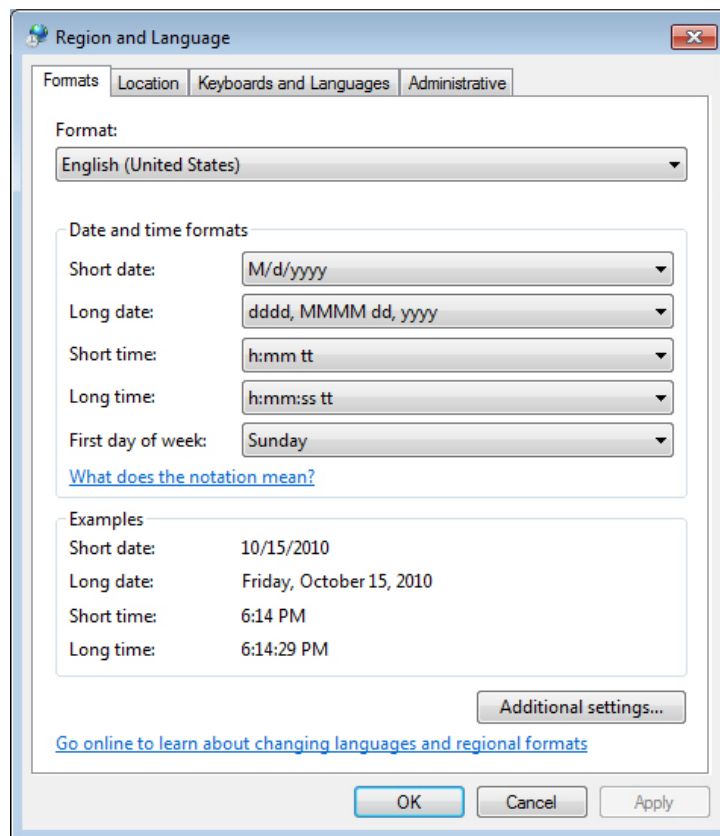
Administrative tools

To gain access to the available administrative tools:

▲ Click the **Administrative Tools** icon in the **Control Panel**.
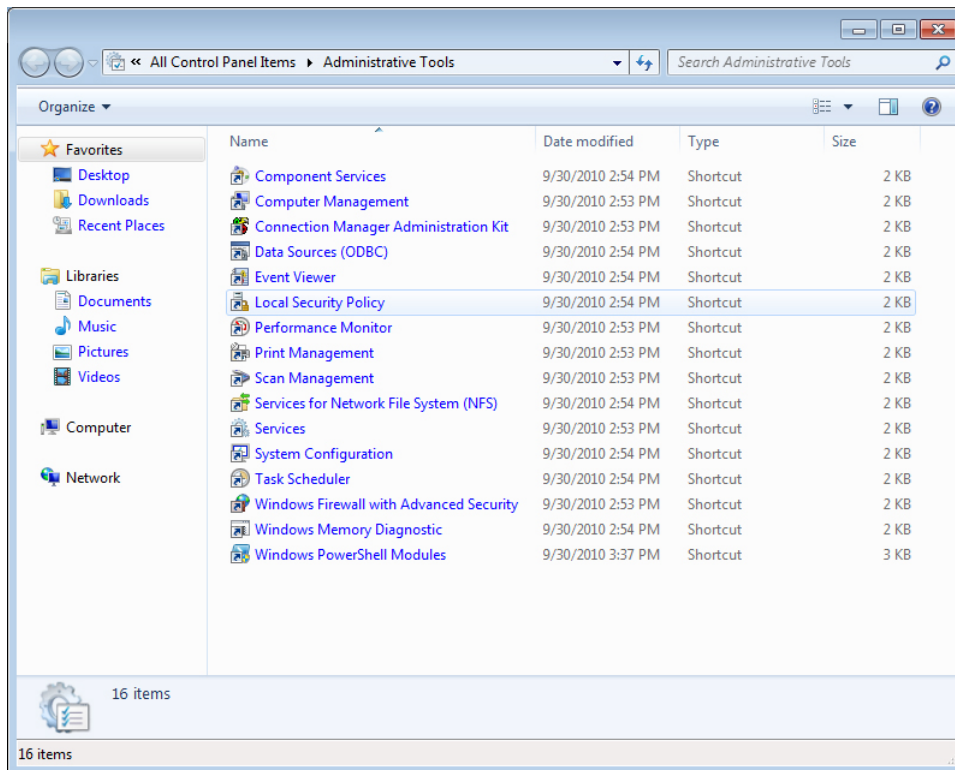
Wireless network configuration

To add a wireless network:

1. Click **Control Panel > Network and Sharing Center**.

2. Select **Manage Wireless Network**.

3. Click **Add**.

4. Select either:

   ● **Manually Create a Network**

     or

   ● **Create an AdHoc Network**

4 Applications

The latest WES image has the following preinstalled applications:

- [Windows Firewall on page 12](#)

- [Remote Desktop Connection (RDC) on page 12](#)

- [Microsoft Internet Explorer on page 13](#)

- [Windows Media Player on page 14](#)

- [Windows Embedded Standard 7 P specific features on page 14](#)

- [PDF Complete on page 13](#)

Additional applications in the form of add-ons are provided and can be downloaded from the HP website.

Check the HP support site for these applications or for other important updates or documentation: http://www.hp.com/support. Select the country/region from the map, then select **Product Support & Troubleshooting** or **Drivers & Software**. Type the digital signage player model in the field and click **Search**.

Windows Firewall

The HP WES 7 image includes the Windows Firewall.

To configure firewall settings:

▲ Select **Control Panel > Windows Firewall**.

For more detailed information about the firewall, visit http://www.microsoft.com/.

Remote Desktop Connection (RDC)

Use the Remote Desktop Connection dialog box to establish connections to a Windows Terminal Server or to access remote applications using Microsoft RDP.

Refer to the Microsoft website for documentation that offers a detailed explanation and instructions on how to use the Microsoft RDC dialog box.

▲ Click **Start > All Programs > Accessories > Remote Desktop Connection**.

PDF Complete

PDF Complete Special Edition enables you to view, search, and print existing PDF documents and to copy to the clipboard.

For more information on this application, go to http://www.pdfcomplete.com.

Microsoft Internet Explorer

The Microsoft Internet Explorer browser is installed locally on the digital signage player.

Internet Explorer has more control over the execution of all content, including a built-in facility to manage pop-up windows. Furthermore, Internet Explorer now prevents scripts from moving or resizing windows and status bars to hide them from view or obscure other windows and includes a block unsafe file transfers feature. For more information, see http://support.microsoft.com/kb/291369.

NOTE: To downgrade from Internet Explorer 9 to Internet Explorer 8, simply uninstall Internet Explorer 9. Internet Explorer 8 does not need to be installed.

1. Log on as Administrator.

2. Open **Control Panel > Programs and Features**.

3. Click **View installed updates** in the left pane.

4. Scroll down to the **Microsoft Windows** section.

5. Right-click **Windows Internet Explorer 9**, and click **Uninstall**.

6. When prompted, click **Yes**.

7. Reboot.

For more information, see the Microsoft website: http://windows.microsoft.com/en-US/windows7/how-do-i-install-or-uninstall-internet-explorer-9.

Windows Media Player

The Windows Media Player contains security, performance, and functionality improvements. For more information about improvements to Windows Media Player, refer to the Windows Media Player home page at http://windows.microsoft.com/en-US/windows/products/windows-media-player.
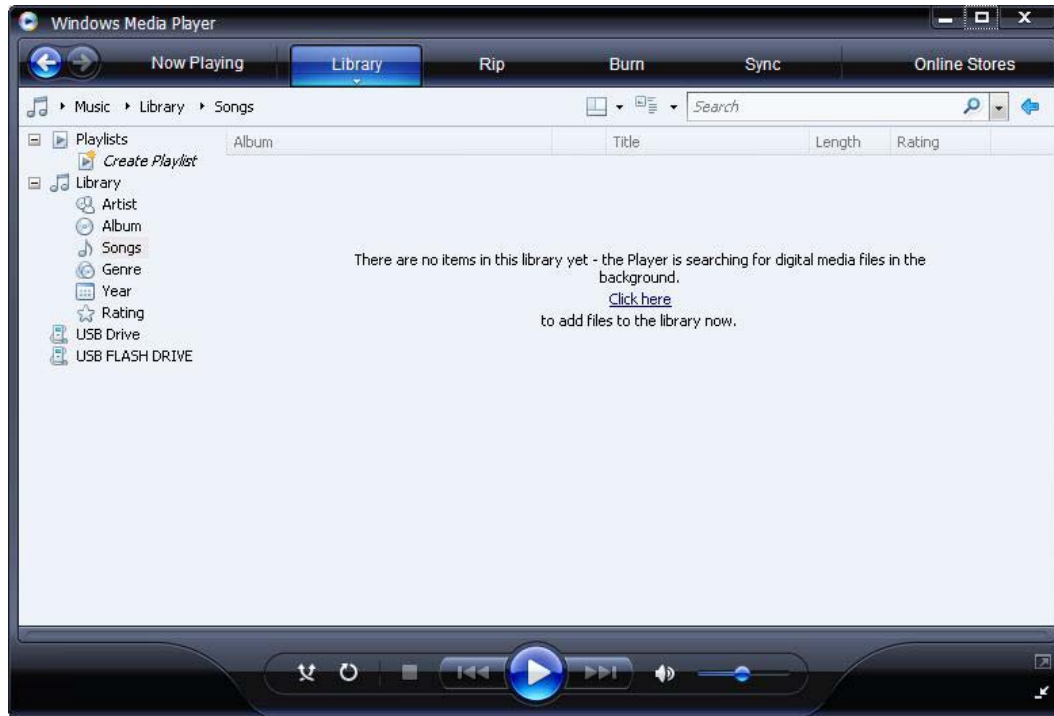

Windows Embedded Standard 7 P specific features

- Anti-malware/defender

- Tablet/touch

- Photo viewer

- Direct access

- Branchcache

- Enterprise search scopes

- Applocker

- Remote media streaming

- Snipping tool

- Sticky notes

For detailed information, see the Microsoft website: http://www.microsoft.com/windowsembedded/en-us/develop/windows-embedded-standard-7-os-components.aspx.

5   Control panel extended selections

The control panel is accessed by selecting **Start > Control Panel**.
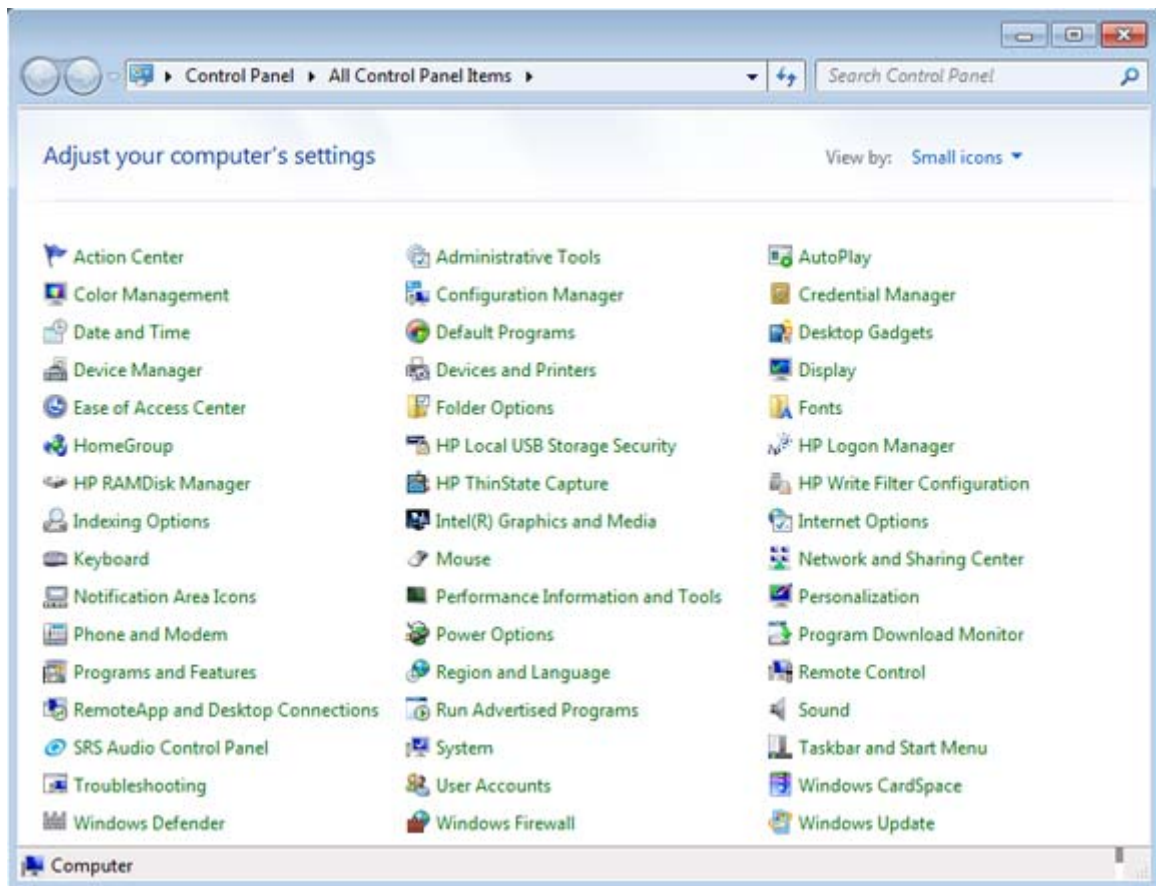
Write filters

Choosing the write filter

HP Windows Embedded Standard digital signage players include both the Enhanced Write Filter (EWF) and the File-based Write Filter (FBWF) to protect the operating system.

The writer filter is disabled by default.

TIP: Choose the Enhanced Write Filter to protect an entire partition from writes, or choose the File-based Write Filter to allow specific local applications and files to be updated dynamically.

To select the EWF or FBWF, perform the following steps:

1. Log on as an Administrator.

2. Select **Start > Control Panel > HP Write Filter Configuration**.

3. Select and configure the desired write filter.

4. Reboot the system for the chosen write filter selection and configuration to take effect.

Enhanced Write Filter Manager

WES includes the Enhanced Write Filter (EWF) console application command-line tool, ewfmgr.exe. In addition to the DOS command-line tool, the WES image includes an Enhanced Write Filter GUI. The EWF allows the operating system (OS) to boot from a disk volume residing on any read-only media or write-protected hard drive while appearing to have read/write access to the OS. The EWF saves all writes to another storage location called an overlay. Changes made to the overlay will not be committed to the flash memory or hard drive unless the EWF has been disabled or the user performs an intentional commit.

The EWF manager console application can be used to issue a set of commands to the EWF driver, report the status of each protected volume overlay, and report the format of the overall EWF configurations.

By including the EWF manager console application component in the configuration and building it into the run-time image, you enable the use of ewfmgr.exe and the corresponding commands.

Benefits of the Enhanced Write Filter

The EWF provides a secure environment for digital signage player computing. It does this by protecting the digital signage player from undesired writes. For the MP4 unit, the write filter also extends the life of the digital signage player by preventing excessive flash write activity. It gives the appearance of read-write access to the flash by employing a cache to intercept all flash writes and returning success to the process that requested the I/O.

The intercepted flash writes stored in cache are available as long as the digital signage player remains active, but they will be lost when the digital signage player is rebooted or shut down. To preserve the results of writes to the registry, the contents of the cache can be transferred to the flash on demand or manually using the Enhanced Write Filter Manager.

After the write filter has been disabled, all future writes during the current boot session are written to the storage device, with no further caching until a reboot occurs. The write filter may also be enabled/disabled through the command line. Always enable the writer filter after all of the permanent changes have been successfully made.

The EWF is a powerful tool for any digital signage player environment by preventing unauthorized users from altering or damaging the image.

Enhanced Write Filter status service

This service creates an icon in the system tray that shows the status of EWF. The EWF Status icon will appear as a red 'lock' when disabled, a green 'lock' when enabled, and a yellow 'lock' when the state is set to change on the next boot.
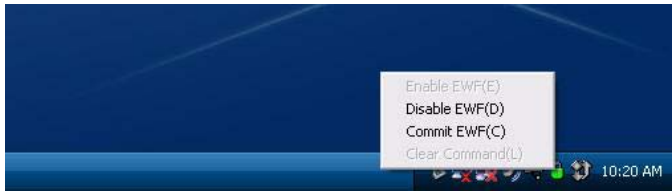
Status	Description	Example
Red	Disabled	
Green	Enabled	
Yellow	Commit Mode	
Yellow with Red 'X'	Write Filter Corrupted	

NOTE: In the event of a corrupted EWF state, you may be able to correct this by issuing the command `rundll32 c:\windows\system32\ewfdll.dll,ConfigureEwf` from an Administrator's command prompt (type the command exactly as shown without the quotes) and reboot. If this is unsuccessful, you will need to re-flash the digital signage player unit with the standard factory image provided on the web.

If you are logged-on as Administrator, you can change the status of EWF by right-clicking on the icon and selecting the desired EWF state.

NOTE: Since EWF Manager console utility (ewfmgr.exe) and the EWF status service execute separate code, any status changes by ewfmgr.exe will not be automatically reflected by the EWF status icon.

To refresh the status icon after modifying EWF through ewfmgr.exe, you must right-click on the icon (you can then click anywhere on the screen to close the context menu). However, any operations made through the EWF status icon menu will be visible through the EWF Manager console application. Status and changes to the Enhanced Write Filter will be synchronized between the EWF status icon and the EWF Manager control panel applet.

Enhanced Write Filter GUI

The EWF GUI (part of the HP Write Filter Configuration) can be accessed through the control panel or the Administrative Tools option only by the administrator.
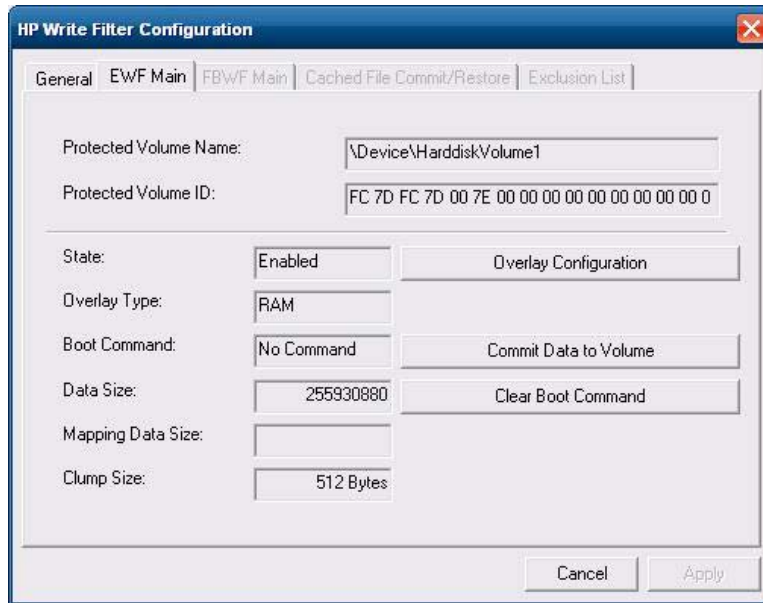
To access the EWF GUI, perform the following steps:

1. Log on as an administrator.

2. Select **Start > Control Panel > HP Write Filter Configuration >**.

3. Click the **EWF Manager** icon.

4. Use the EWF GUI to select the Write Filter options.

EWF GUI Buttons

The current version of the EWF GUI includes the following buttons:

Button	Description
Overlay Configuration	This button simply brings to view the Overlay information and is a combination of the information supplied when executing **ewfmgr.exe c: -Description** and **ewfmgr.exe c: -Gauge** from the DOS prompt.
Clear Boot Command	This button is the same as executing **ewfmgr.exe c: -NoCmd** from the DOS prompt.
Commit Data to Volume	This button is the same as executing **ewfmgr.exe c: -Commit** from the DOS prompt.

NOTE: When using the Commit boot command, all the temporary contents will be permanently written to the flash memory or hard disk. In addition, all content accessed (and changes made) after running Commit, but before rebooting the system, will be written as well. This includes changes made during any number of login/logout sessions before the next reboot.

DOS command-line tool boot commands

The following table lists the EWF boot commands that are supported.

Boot Command	Description
All	Displays information about all protected volumes and performs a command, such as **Disable**, **Enable**, and **Commit**, on each volume if specified.
Commit	Commits all current level data in the overlay to the protected volume and resets the current overlay level to 1 upon shutdown.
Disable	Allows user to write to the image after the next reboot.
Enable	Prevents the user from writing to the image after the next reboot.
Commitanddisable	Combination of the **Commit** and **Disable** commands. This command will commit data in the overlay upon shutdown. Additionally, EWF will be disabled after the system reboots.

NOTE: When using the Commit boot command, all the temporary contents will be permanently written to the flash memory or hard disk. In addition, all content accessed (and changes made) after running Commit, but before rebooting the system, will be written as well. This includes changes made during any number of login/logout sessions before the next reboot.

Using boot commands

To use the EWF manager boot commands, type the following syntax in a command prompt:

```
EWFMGR <drive-letter> —[boot command].
```

NOTE: Because the EWF manager commands are executed on the next boot, you must reboot the system for the command to take effect.

File-Based Write Filter Manager

WES includes the File-Based Write Filter (FBWF) console application command-line tool, fbwfmgr.exe. In addition to the DOS command-line tool, the WES image includes a write filter GUI.

Benefits of the File-Based Write Filter

The FBWF provides a secure environment for digital signage player computing. It does this by protecting the digital signage player from undesired writes. For the MP4 model, the write filter also extends the life of the digital signage player by preventing excessive flash write activity. It maintains the appearance of read and write access to write-sensitive or read-only storage to the operating system, making read and write access transparent to applications. File and/or folder exclusions can be configured to allow certain changes to persist, while preventing others from writing to disk.

File-Based Write Filter Status Service

This service creates an icon in the system tray that shows the status of FBWF. The FBWF status icon will appear as a red 'lock' when disabled and a green 'lock' when enabled.


Status	Description	Example
Red	Disabled	
Green	Enabled	
Yellow	Commit Mode	
Yellow with Red 'X'	Write Filter Corrupted	

If you are logged on as Administrator, you can change the status of FBWF by right-clicking on the icon and selecting the desired FBWF status.

File-Based Write Filter GUI

The FBWF GUI (part of the HP Write Filter Configuration) can be accessed through the control panel or the Administrative Tools option only by the administrator.
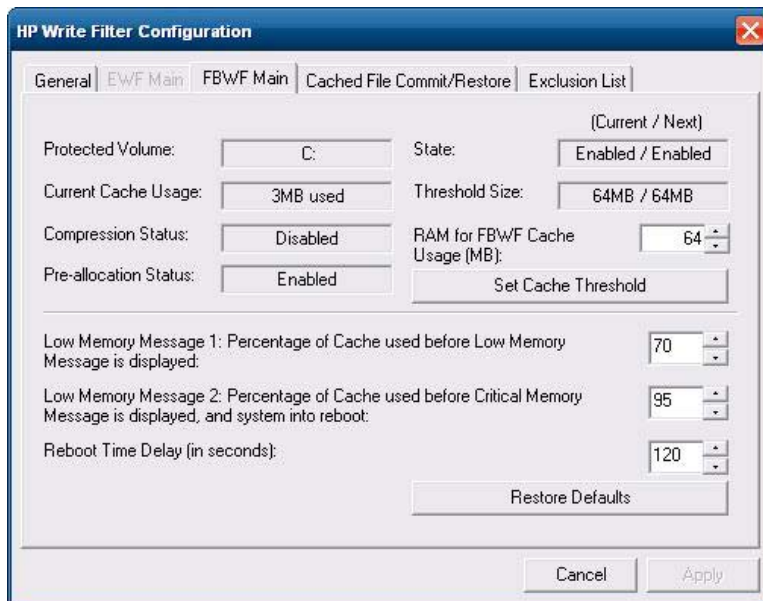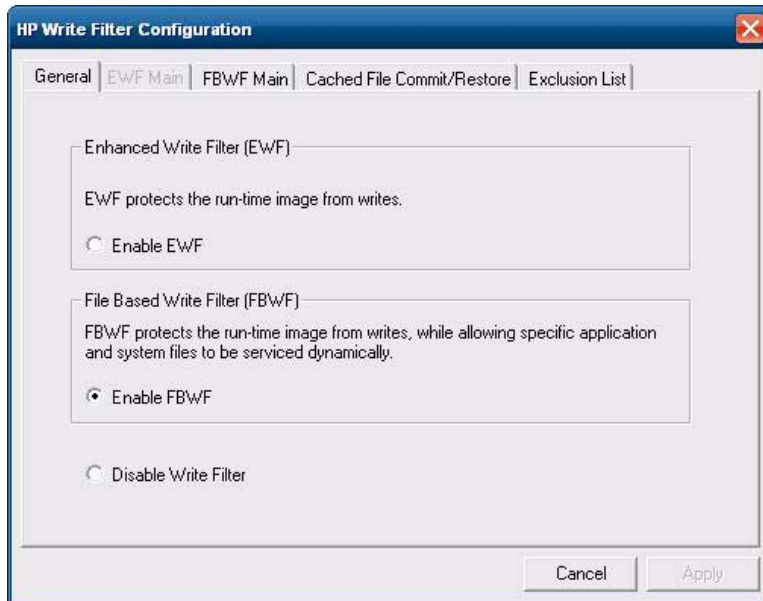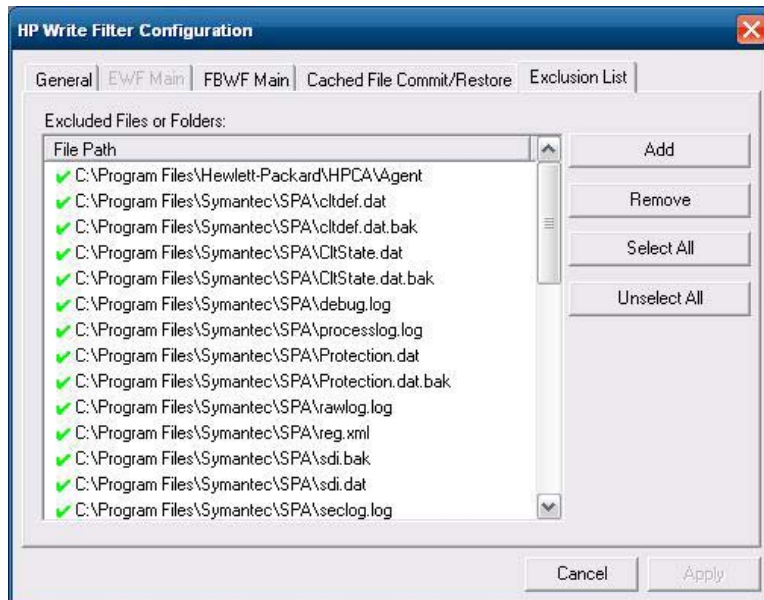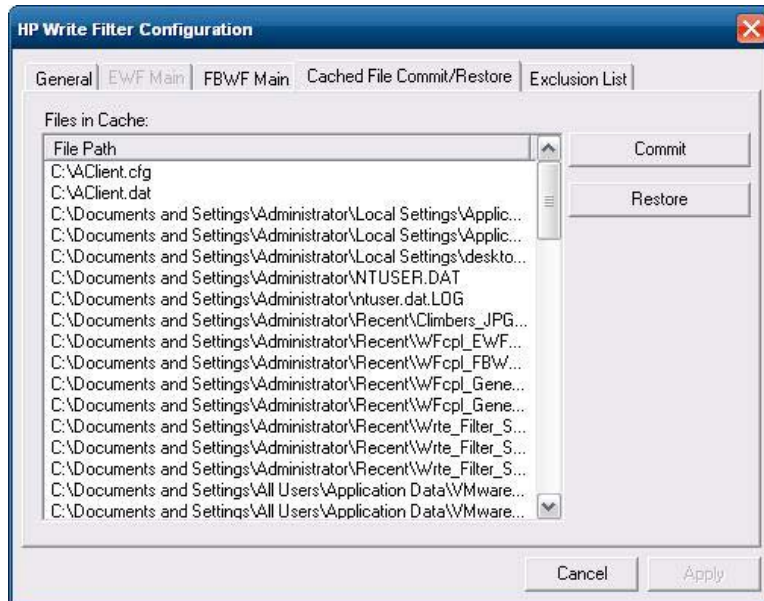
6 Administration and image upgrades

This section highlights and discusses the Remote Administration capabilities and firmware upgrade methods applicable to the digital signage player.

HP Digital Signage Player Imaging Tool

The HP Digital Signage Player Imaging Tool is part of the SoftPaq deliverable that contains the original factory image for the HP digital signage player. You can use this utility to restore the original factory image to the digital signage player.

This utility allows you to perform the following options:

- Create a bootable image on a USB flash device (such as on a disk on key)

- Unbundle the image to a directory for use in a custom deployment scenario or PXE image

For additional information about this utility and its uses, visit the HP website at http://www.hp.com/support. Select the country/region from the map, then select **Product Support & Troubleshooting**. Type the digital signage player model in the field and click **Search**.

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