Description of the Windows XP Recovery Console

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For a Microsoft Windows 2000 version of this article, see 229716 (http://support.microsoft.com/kb/229716/).

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INTRODUCTION

This article describes the functionality and limitations of the Windows Recovery Console. If your Microsoft Windows XP-based computer does not start correctly or if it does not start at all, you can use the Windows Recovery Console to help you recover your system software. This article discusses the following topics:

- How to start the Windows Recovery Console.
- How to use the Command Console.
- Restrictions and limitations of the Windows Recovery Console.
- The commands that are available in the Windows Recovery Console.

MORE INFORMATION

When you use the Windows Recovery Console, you can obtain limited access to the NTFS file system, FAT, and FAT32 volumes without starting the Windows graphical user interface (GUI). In the Windows Recovery Console, you can:

- Use, copy, rename, or replace operating system files and folders.
- Enable or disable service or device startup the next time that start your computer.
- Repair the file system boot sector or the Master Boot Record (MBR).
- Create and format partitions on drives.

Note Only an administrator can obtain access to the Windows Recovery Console so that unauthorized users cannot use any NTFS volume.

Starting the Windows Recovery Console

To start the Windows Recovery Console, use one of the following methods:

- Use the Windows Setup floppy disks or the Windows CD-ROM to start your computer. At the "Welcome to Setup" screen, press F10 or press 'R" to repair.
- Use the Winnt32.exe utility with the **/cmdcons** option to add the Windows Recovery Console to the Windows Startup folder. This procedure requires approximately 7 megabytes (MB) of hard disk space on the system partition to hold the Cmdcons folder and files.

  Important If you are using software mirroring, see the following article in the Microsoft Knowledge Base:

    229077 (http://support.microsoft.com/kb/229077/) Mirroring prevents pre-installing the Recovery Console

- Follow the instructions in the following article in the Microsoft Knowledge Base:

    222478 (http://support.microsoft.com/kb/222478/) Creating a template to run Recovery Console using a remote install server

Using the Command Console

After you start the Windows Recovery Console, you receive the following message:

    Microsoft Windows(R) Recovery Console

    The Recovery Console provides system repair and recovery functionality.
    Type EXIT to quit the Recovery Console and restart the computer.

    1: C:\WINDOWS

    Which Windows Installation would you like to log on to

(To cancel, press ENTER)?

After you enter the number for the appropriate Windows installation, Windows will then prompt you to enter the Administrator account password.

Note If you use an incorrect password three times, the Windows Recovery Console quits. Also, if the Security Accounts Manager (SAM) database is missing or damaged, you cannot use the Windows Recovery Console because you cannot have correct authentication. After you enter your password and the Windows Recovery Console starts, type **exit** to restart the computer.

When you use Windows XP Professional, you can set group policies to enable automatic administrative logon.

For additional informationabout how to set Recovery Console to enable automatic administrative logon, click the following article number to view the article in the Microsoft Knowledge Base:

312149 (http://support.microsoft.com/kb/312149/) How to enable an administrator to log on automatically in Recovery Console

Restrictions and limitations of the Recovery Console

When you use the Windows Recovery Console, you can use only the following items:

- The root folder
- The %SystemRoot% folder and the subfolders of the Windows installation that you are currently logged on to
- The Cmdcons folder
- The removable media drives such as the CD-ROM drive or the DVD-ROM drive

Note If you try to obtain access to other folders, you may receive an "Access Denied" error message. Also, when you are using the Windows Recovery Console, you cannot copy a file from the local hard disk to a floppy disk. However, you can copy a file from a floppy disk or from a CD-ROM to a hard disk, and you can copy a file from one hard disk to another hard disk.

Available commands

HELP

Use the **help** command to list all the following supported commands:

```
attrib    del        fixboot    more     set
batch     delete     fixmbr     mkdir    systemroot
bootcfg   dir        format     more     type
cd        disable    help       net
chdir     diskpart   listsvc    rd
chkdsk    enable     logon      ren
cls       exit       map        rename
copy      expand     md         rmdir
```

ATTRIB

Use the **attrib** command with one or more of the following parameters to change the attributes of a file or a folder:

-R
+R
-S
+S
-H
+H
-C
+C

Notes:

+ : Sets an attribute
- : Resets an attribute
R : Read-only file attribute
S : System file attribute
H : Hidden file attribute
C : Compressed file attribute

You must set or clear at least one attribute.

To view attributes, use the **dir** command.

BATCH

batch *inputfile* [*outputfile*]

Use this command to run commands that are specified in a text file. In the command syntax, *inputfile* specifies the text file that contains the list of commands to be run, and *outputfile* specifies the file that contains the output of the specified commands. If you do not specify an output file, the output appears on the screen.

BOOTCFG

Use this command for boot configuration and recovery. This command has the following options:

```
bootcfg /add
bootcfg /rebuild
bootcfg /scan
bootcfg /list
bootcfg /disableredirect
bootcfg /redirect [portbaudrate] | [useBiosSettings]
```

Examples:

bootcfg /redirect com1 115200

bootcfg /redirect useBiosSettings

You can use the following options:

/add : Adds a Windows installation to the boot menu list.
/rebuild : Iterates through all Windows installations so that you can specify which installations to add.
/scan : Scans all disks for Windows installations and displays the results so that you can specify which installations to add.
/default : Sets the default boot entry.
/list : Lists the entries already in the boot menu list.
/disableredirect : Disables redirection in the boot loader.
/redirect : Enables redirection in the boot loader, with the specified configuration.

CD and CHDIR

Use the **cd** and **chdir** commands to change to a different folder. For example, you can use the following commands:

Type **cd** .. to change to the parent folder.
Type **cd drive**: to display the current folder in the specified drive.
Type **cd** without parameters to display the current drive and folder.

The **chdir** command treats spaces as delimiters. Because of this, you must put quotation marks ("") around a folder name that contains a space, for example:

cd "\windows\profiles\username\programs\start menu"

The **chdir** command works only in the system folders of the current installation of Windows, in removable media, in the root folder of any hard disk partition, or in the local installation sources.

CHKDSK

chkdsk *drive* **/p /r**

The **chkdsk** command checks the specified drive and repairs or recovers the drive if the drive requires it.The command also marks any bad sectors and it recovers readable information.

You can use the following options:

/p : Does an exhaustive check of the drive and corrects any errors.
/r : Locates bad sectors and recovers readable information.

Note If you specify the **/r** option, the **/p** option is implied. When you specify the **chkdsk** command without arguments, the command checks the current drive with no options in effect.

When you run the **chkdsk** command, you are required to use the Autochk.exe file. CHKDSK automatically locates this file in the startup folder. If the Command Console was preinstalled, the startup folder is typically the Cmdcons folder. If CHKDSK cannot find Autochk.exe in the startup folder, CHKDSK tries to locate the Windows CD-ROM installation media. If it cannot find the installation media, CHKDSK prompts you for the location of the Autochk.exe file.

CLS

Use this command to clear the screen.

COPY

copy *source destination*

Use this command to copy a file. In the command syntax, *source* specifies the file to copy and *destination* specifies the folder or file name for the new file. You cannot use wildcard characters indicated by an asterisk (*), and you cannot copy a folder. If you copy a compressed file from the Windows CD-ROM, the file is automatically decompressed at the same time it is copied.

The source of the file can be removable media, any folder in the system folders of the current Windows installation, the root of any drive, the local installation sources, or the Cmdcons folder.

If *destination* is unspecified, the default destination is the current folder. If the file already exists, you are prompted whether you want the copied file to overwrite the existing file. The destination cannot be removable media.

DEL and DELETE

del *drive*: *path filename*

delete *drive*: *path filename*

Use this command to delete a file. In the command syntax, *drive*: *path filename* specifies the file that you want to delete. The **delete** command works only in the system folders of the current Windows installation, in removable media, in the root folder of any hard disk partition, or in the local installation sources. The **delete** command does not accept wildcard characters.

DIR

dir *drive*: *path filename*

Use this command to display a list of files and subfolders in a folder. In the command syntax, *drive*: *path filename* specifies the drive, folder, and files to list. The **dir** command lists all files, including hidden and system files. Files can have the following attributes:

D : Directory
H : Hidden file
S : System file
E : Encrypted
R : Read-only file
A : Files ready for archiving
C : Compressed
P : Reparse point

The **dir** command works only in the system folders of the current Windows installation, in removable media, in the root folder of any hard disk partition, or in the local installation sources.

DISABLE

disable *servicename*

Use this command to disable a Windows system service or driver. In the command syntax, *servicename* specifies the name of the service or driver that you want to disable.

Use the **listsvc** command to display all services or drivers that are eligible to be disabled. The **disable** command prints the old start type of the service before resetting the start type to SERVICE_DISABLED. Record the old start type if you must enable the service again.

The **disable** command displays the following start_type values:

SERVICE_DISABLED
SERVICE_BOOT_START
SERVICE_SYSTEM_START
SERVICE_AUTO_START
SERVICE_DEMAND_START

DISKPART

diskpart */add /delete device_name drive_name partition_name size*

Use this command to manage the partitions on your hard disk volumes. You can use the following options:

/add : Creates a new partition.
/delete : Deletes an existing partition.
device_name : The name of the device that is used to create a new partition.
drive_name : A drive-letter-based name, for example D:.
partition_name : The partition-based name for deleting an existing partition.
size : The size of the new partition in megabytes.

You can determine the device name from the output of the MAP command, for example, \Device\HardDisk0. You can use the partition name instead of the drive name argument, for example,

\Device\HardDisk0\Partition1. If you use no arguments, a user interface for managing your partitions appears.

Warning If you use this command, you can damage the partition table if the disk has been upgraded to a dynamic disk configuration. Do not modify the structure of dynamic disks unless you are using the Disk Management tool.

ENABLE

enable *servicename start_type*

You can use the **enable** command to enable a Windows system service or driver.

Use the **listsvc** command to display all eligible services or drivers to enable. The **enable** command prints the old start type of the service before resetting it to the new value. It is a good idea to note the old value, in case you have to restore the start type of the service.

Valid options for *start_type* are:

SERVICE_BOOT_START
SERVICE_SYSTEM_START
SERVICE_AUTO_START
SERVICE_DEMAND_START

If you do not specify a new start type, the **enable** command prints the old start type for you.

EXIT

Use the **exit** command to quit the Recovery Console and restart your computer.

EXPAND

expand *source* **[/F:filespec] [***destination***] [/y]**

expand *source* **[/F:filespec] /D**

Use this command to expand a file. In the command syntax, *source* specifies the name of the file to be expanded and *destination* specifies the folder for the new file. If you do not specify a destination, the command defaults to the current folder. You cannot include wildcard characters.

You can use the following options:

/y : Do not prompt before overwriting an existing file.
/f:filespec : Identifies the files to be expanded.
/d : Do not expand; display only a directory of the files in the source.

If the source contains more than one file, you must use the **/f:filespec** parameter to identify the specific files to be expanded. You can include wildcard characters.

The destination can be any folder in the system folders of the current Windows installation, in the root of the drive, in the local installation sources, or in the Cmdcons folder. The destination cannot be removable media, and the destination file cannot be read-only. Use the **attrib** command to remove the read-only attribute.

Unless you use the **/y** option, the **expand** command prompts you if the destination file already exists.

FIXBOOT

fixboot *drive name***:**

Use this command to write the new Windows boot sector code on the system partition. In the command syntax, *drive name* is the drive letter where the boot sector will be written. This command fixes damage in the Windows boot sector. This command overrides the default setting, which writes to the system boot partition. The **fixboot** command is supported only on x86-based computers.

FIXMBR

fixmbr *device name*

Use this command to repair the MBR of the boot partition. In the command syntax, *device name* is an optional device name that specifies the device that requires a new MBR. Use this command if a virus has damaged the MBR and Windows cannot start.

Warning This command can damage your partition tables if a virus is present or if a hardware problem exists. If you use this command, you may create inaccessible partitions. We recommend that you run antivirus software before you use this command.

You can obtain the device name from the output of the **map** command. If you do not specify a device name, the MBR of the boot device is repaired, for example:

fixmbr \device\harddisk2

If the **fixmbr** command detects an invalid or non-standard partition table signature, **fixmbr** command prompts you for permission before rewriting the MBR. The **fixmbr** command is supported only on x86-based computers.

FORMAT

> **format** *drive*: */Q /FS:file-system*

Use this command to format the specified drive to the specified file system. In the command syntax, */Q* performs a quick format of the drive, *drive* is the drive letter of the partition to format, and */FS:file-system* specifies the type of file system to use such as FAT, FAT32, or NTFS. If you do not specify a file system, the existing file system format is used if it is available.

LISTSVC

The **listsvc** command lists all available services, drivers, and their start types for the current Windows installation. This command is useful in conjunction with the **disable** and **enable** commands.

The list is extracted from the %SystemRoot%\System32\Config\System hive. If the System hive is damaged or missing, the results are unpredictable.

LOGON

> **logon**

The **logon** command lists all detected installations of Windows and then requests the local administrator password for the copy of Windows that you want to log on to. If your first three tries to log on do not succeed, the console quits, and your computer restarts.

MAP

> **map** *arc*

Use this command to list drive letters, file system types, partition sizes, and mappings to physical devices. In the command syntax, the *arc* parameter tells the **map** command to use ARC paths instead of Windows Device paths.

MD and MKDIR

The **md** and **mkdir** commands create new folders. Wildcard characters are not supported. The **mkdir** command works only in the system folders of the current installation of Windows, in removable media, in the root folder of any hard disk partition, or in the local installation sources.

MORE

> **more** *filename*

Use this command to display a text file to the screen.

NET

Although the Help file states otherwise, the **net** command is not usable from the Recovery Console. The protocols stack is not loaded for the Recovery Console. Therefore, there is no networking function available.

RD and RMDIR

Use **rd** and **rmdir** commands to delete a folder. These commands work only in the system folders of the current Windows installation, in removable media, in the root folder of any hard disk partition, or in the local installation sources.

REN and RENAME

Use the **ren** and **rename** commands to rename a file.

Note You cannot specify a new drive or path for the renamed file. These commands work only in the system folders of the current Windows installation, in removable media, in the root folder of any hard disk partition, or in the local installation sources.

SET

You can use the **set** to display or modify four environment options.

> AllowWildCards = FALSE AllowAllPaths = FALSE AllowRemovableMedia = FALSE NoCopyPrompt = FALSE

For additional information about how to use the set command, click the following article number to view the article in the Microsoft Knowledge Base:

> 235364 (http://support.microsoft.com/kb/235364/) Description of the SET command in the Recovery Console

SYSTEMROOT

The **systemroot** command sets the current working folder to the %SystemRoot% folder of the Windows installation that you are currently logged on to.

TYPE

    type *filename*

Use the **type** command to display a text file.

APPLIES TO

- Microsoft Windows XP Home Edition
- Microsoft Windows XP Professional

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