

Description of the Windows 2000 Recovery Console

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For a Microsoft Windows XP version of this article, see [314058](http://support.microsoft.com/kb/314058) (<http://support.microsoft.com/kb/314058/EN-US/>).

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SUMMARY

This article describes the functionality and limitations of the Windows Recovery Console. The Windows Recovery Console is designed to help you recover when your Windows-based computer does not start properly or does not start at all.

MORE INFORMATION

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

- Use, copy, rename or replace operating system files and folders.
- Enable or disable services or devices from starting when you next start your computer.
- Repair the file system boot sector or the Master Boot Record (MBR).
- Create and format partitions on drives.

Note that 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 any of the following methods:

- Start your computer with the Windows Setup floppy disks, or with the Windows CD-ROM. At the "Welcome to Setup" screen, press F10, or press R to repair, and then press C (Windows 2000 only) to start the Windows Recovery Console. Select the appropriate number for the Windows installation that you want to repair, and then type the administrator password. If the administrator password does not exist, just press ENTER.
- Add the Windows Recovery Console to the Windows Startup folder by using Winnt32.exe with the `/cmdcons` switch. This procedure requires approximately 7 MB of hard disk space on your system partition to hold the Cmdcons folder and files.

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

[229077](http://support.microsoft.com/kb/229077/EN-US/) (<http://support.microsoft.com/kb/229077/EN-US/>) 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/EN-US/) (<http://support.microsoft.com/kb/222478/EN-US/>) 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:

```
Windows NT(TM) Boot Console Command Interpreter.
```

WARNING:

This is a limited function command prompt intended only as a system recovery utility for advanced users. Using this utility incorrectly can cause serious system-wide problems that may require you to reinstall Windows to correct them.

Type 'exit' to leave the command prompt and reboot the system.

```
1: C:\WINNT
```

Which Windows installation would you like to logon to (enter to abort)?

After you enter the number for the appropriate Windows installation, enter the Administrator account password. Note that if you use an incorrect password three times, the Windows Recovery Console quits. Also, if the SAM database is missing or damaged, you are not able to use the Windows Recovery Console because you cannot be properly authenticated. After you enter your password and the Windows Recovery Console starts, type **exit** to restart your computer.

Restrictions and Limitations of the Command Console

From the Windows Recovery Console you can only use the following folders:

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

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

Available Commands

HELP

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

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

ATTRIB

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

```
-R
+R
-S
+S
-H
+H
```

```
+ Sets an attribute.
- Resets an attribute.
R Read-Only file attribute.
S System file attribute.
H Hidden file attribute.
```

NOTE: At least one attribute must be set or cleared. To view attributes, use the **dir** command.

CD and CHDIR

Use the **cd** and **chdir** commands to change the folder. If you type **cd ..**, you specify that you want 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 enclose a subfolder name that contains a space with quotation marks, for example:

```
cd "\winnt\profiles\username\programs\start menu"
```

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

CHKDSK

```
chkdsk drive /p /r
```

This command (where *drive* specifies the drive to check) checks the drive, and if needed, repairs or recovers the drive. It also marks bad sectors and recovers readable information.

The **/p** switch instructs CHKDSK to do an exhaustive check of the drive even if the drive is not marked with problems, and then corrects any errors that are found. The **/r** switch locates bad sectors and recovers readable information. Note that if you specify the **/r** switch, the **/p** switch is implied. The **chkdsk** command may be specified without arguments, in which case the current drive is implied with no switches. Optionally, the listed switches are accepted. The **chkdsk** command requires the

Autochk.exe file. Chkdsk automatically locates this file in the bootup folder. Typically, this folder is the Cmdcons folder if the Command Console was pre-installed. If the folder cannot be found in the bootup folder, Chkdsk tries to locate the Windows CD-ROM installation media. If the installation media cannot be found, Chkdsk prompts you to provide the location of the Autochk.exe file.

CLS

Use this command to clear the screen.

COPY

copy *source destination*

Use this command (where *source* specifies the file to be copied and *destination* specifies the folder or file name for the new file) to copy a file. Wildcards or folder copies are not permitted. A compressed file from the Windows CD-ROM is automatically decompressed as it is copied.

If *destination* is not specified, it defaults to the current folder. If the file already exists, you are prompted to overwrite it.

DEL and DELETE

del *drive: path filename*

delete *drive: path filename*

Use this command (where *drive: path filename* specifies the file to delete) to delete a file. The **delete** command only operates within the system folders of the current Windows installation, removable media, the root folder of any hard disk partition, or the local installation sources. The **delete** command does not accept wild card (*) characters.

DIR

dir *drive: path filename*

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

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

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

DISABLE

disable *servicename*

Use this command (where *servicename* specifies the name of the service or driver to be disabled) to disable a Windows system service or driver.

Use the **listsvc** command to display all eligible services or drivers to disable. The **disable** command prints the old start type of the service before resetting it to SERVICE_DISABLED. Because of this, you should record the old start type in case it is necessary to re-enable the service.

The start_type values that the **disable** command displays are:

```
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.

- **/add**: Creates a new partition.
- **/delete**: Deletes an existing partition.
- *device_name*: The device name for creating a new partition. The name can be obtained from the MAP command, for example: **\Device\HardDisk0**.
- *drive_name*: A drive-letter based name for deleting an existing partition, for example **D**:

- *partition_name*: The partition-based name for deleting an existing partition and can be used in place of the drive name argument, for example: `\Device\HardDisk0\Partition1`.
- *size*: The size of the new partition in megabytes.

NOTE: If no arguments are used, a user interface for managing your partitions is displayed.

WARNING: This command can damage your 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 (where *servicename* is the name of the service or driver to be enabled) 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. You should note the old value, in case it is necessary to restore the start type of the service.

Valid *start_type* are:

```
SERVICE_BOOT_START
SERVICE_SYSTEM_START
SERVICE_AUTO_START
SERVICE_DEMAND_START
```

NOTE: 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 Command Console and restart your computer.

EXPAND

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

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

Use this command (where *source* specifies the name of the file to be expanded and *destination* specifies the directory for the new file) to expand a file.

NOTE: You may not include wildcards.
If *destination* is not specified, the command defaults to the current folder.

Options:

- **/y**: Do not prompt before overwriting an existing file.
- **/f:filespec**: If the source contains more than one file, this parameter is required to identify the specific files to be expanded. You may include wildcards.
- **/d**: Do not expand; only display a directory of the files which are contained in the source.

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

expand prompts you if the destination file already exists unless you use **/y**.

FIXBOOT

fixboot *drive name*:

Use this command (where *drive name* is the drive letter where the boot sector will be written) to write the new Windows boot sector code on the boot partition. This command fixes problems where the Windows boot sector is corrupted. The Emergency Repair process also fixes the boot sector. This command overrides the default of writing to the system boot partition.

FIXMBR

fixmbr *device name*

Use this command (where *device name* is an optional device name that specifies the device that needs a new MBR) to repair the master boot record (MBR) of the system partition. This command is used in scenarios where a virus has damaged the MBR and Windows cannot start.

WARNING: This command has the potential to damage your partition tables if a virus is present or a hardware problem exists. This command may lead to inaccessible partitions. Microsoft suggests running

antivirus software before using this command.

The name can be obtained from the output of the **map** command. If this is left blank, the boot device's MBR is fixed, for example:

```
fixmbr \device\harddisk2
```

If Fixmbr detects an invalid or non-standard partition table signature, it prompts you for permission before rewriting the MBR.

FORMAT

```
format drive: /Q /FS:file-system
```

Use this command (where */Q* performs a quick format of the drive, *drive* is the drive letter of the partition to format */FS:file-system* specifies the type of file system to use [FAT, FAT32, or NTFS]) to format the specified drive to the specified file system.

If a file system is not specified, the existing file system format is used, when available.

LISTSVC

The **listsvc** command lists all available services, drivers, and their start types for the current Windows installation. This command may be useful when using the **disable** and **enable** commands.

NOTE: These are extracted from the %SystemRoot%\System32\Config\SYSTEM hive. If the SYSTEM hive become damaged or missing, unpredictable results may occur.

LOGON

```
logon
```

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

MAP

```
map arc
```

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

MD and MKDIR

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

MORE

```
more filename
```

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

RD and RMDIR

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

REN and RENAME

The **ren** and **rename** commands can rename a file. Note that you cannot specify a new drive or path for your destination file. These commands only operate within the system folders of the current Windows installation, removable media, the root folder of any hard disk partition, or the local installation sources.

SET

The **set** command allows you to display or modify four environment options.

```
AllowWildCards = FALSE AllowAllPaths = FALSE AllowRemovableMedia = FALSE NoCopyPrompt  
= FALSE
```

SYSTEMROOT

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

TYPE

```
type filename
```

The **type** command displays a text file.

APPLIES TO

- Microsoft Windows 2000 Server
- Microsoft Windows 2000 Advanced Server
- Microsoft Windows 2000 Professional Edition
- Microsoft Windows 2000 Datacenter Server

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