

Advanced Windows Me

OBJECTIVES

1. Create the Windows Millennium Startup disk.
2. Investigate the file structure of the Windows Millennium operating system.
3. Boot to a Windows Me Startup disk.
4. Manipulate the system's Registry files.
5. Use the Registry editor to change registry settings.



**Operating
System
Technology**

RESOURCES

1. Marcraft 8000 Trainer with Windows Millennium installed
2. Blank formatted floppy disk

DISCUSSION

In Windows Me and Windows 9x, many of the functions previously performed by the various INI files in Windows 3.x have been shifted to a central area called the Registry. The operating system uses the Registry to store and confirm configuration information. During startup, the system checks the Registry to find out what is installed and how it is configured. Information in the Registry can be manipulated through a utility called the Registry Editor.

In the following procedure, you will create a clean startup disk for troubleshooting problems that arise when Windows becomes corrupt. In addition, you will use the Windows Me Registry Editor to manipulate system settings.

You will also review the standard procedure for restoring the Registry after changes have been made to it. This is particularly important if changes occur that prevent the operating system from restarting. The final portion of the procedure will restore the Registry to the state it was in the last time Windows Me successfully started.

Using the Registry Editor and changing settings within the Registry would take several extensive lab procedures to master. However, the steps of this procedure will adequately introduce you to the Registry, how it is accessed, and how to work with it normally. Further investigation of the Registry and its editing tool is recommended.



Operating
System
Technology

PROCEDURE

Creating A Startup Disk

Since Windows Me does not start up through DOS, it could be very difficult to gain access to the system if Windows becomes disabled. Therefore, it is helpful to have a “clean” Startup disk to troubleshoot Windows Me-related problems. In the event that the Windows program becomes non-functional, it will be necessary to use the Startup disk you create to restore the system to proper operation.

When creating a floppy Startup disk, Windows Me transfers to it a number of diagnostic files. These utilities are particularly helpful in getting a Windows Me machine operational again. Since there is no path to DOS except through Windows, this disk provides one of the few tools for the technician to service a down machine with this operating system.

1. Boot the computer to Windows Me

- ___ a. Turn on the computer and select Windows Millennium from the OS selection menu.

2. Create the emergency Startup disk

- ___ a. Use the path Start/Settings/Control Panel and double-click the Add/Remove Programs icon to open the Add/Remove Programs Properties window.
- ___ b. Select the Startup Disk tab.
- ___ c. Click the Create Disk button, and insert a floppy disk into the A: drive.
- ___ d. When prompted, click OK to begin making the Startup disk.
- ___ e. Click the OK button when the operation is complete.

3. Examine the Startup disk

- ___ a. Close the Control Panel window.
- ___ b. Use the path Start/Programs/Accessories and select *Windows Explorer*.
- ___ c. Expand My Computer and click on the 3 1/2-inch floppy A: drive.
- ___ d. List the files created on the Startup disk in Table 13-1.
- ___ e. Label the disk as an Emergency Startup disk.
- ___ f. Close the Windows Explorer window.

4. Examine the **CONFIG.SYS** file on the Startup disk

- ___ a. Use the path Start/Programs/Accessories and select *Notepad*.
- ___ b. In the menu bar, click the File menu and select Open.
- ___ c. Click the down arrow to open the Look In drop-down menu and select the 3 1/2-inch floppy (A:) drive.
- ___ d. Click the down arrow to open the File of type drop-down menu and select All Files (*.*)
- ___ e. Double-click the **CONFIG.SYS** file and then record each of the subheadings in Table 13-2.

5. Examine the **AUTOEXEC.BAT** file on the boot disk

- ___ a. In the menu bar, click the File menu and select Open.
- ___ b. Click the down arrow to open the Look In drop-down menu and select the 3 1/2-inch floppy (A:) drive.

NOTE: The file of type drop-down menu will automatically have All Files (.*) selected unless Notepad has been closed between Step 4 and Step 5.*

- ___ c. Double-click the **AUTOEXEC.BAT** file and examine the contents.

- ___d. Close the *Notepad* utility and then shut down the computer.

Booting to the Windows Me Startup Disk

When the operating system is not functioning properly, it is often difficult to correct the problem from within the operating system itself. Even if the system has not locked up, it is usually best to attempt any fixes by booting to the operating system on an emergency startup disk. This will allow you to directly manipulate many of the files on the system.

1. Boot to the Startup disk

- ___a. Place the Windows Me Startup disk you created into the floppy (A:) drive.
___b. Turn ON the computer
___c. Hold down the SHIFT and F5 keys to boot to the MS-DOS prompt.

2. Examine the file structure of your hard disk

- ___a. At the A:\> prompt, type **c:** and press the ENTER key to change to the C:\ root directory.
___b. At the C:\> prompt, type **dir /a /p** and press the ENTER key to list all the files and subdirectories in the root directory.

NOTE: The /a switch causes all system and hidden files to also be displayed. The /p switch causes the list to display one screen at a time while pausing.

- ___c. As you scroll through the list, record the number of files and directories shown at the bottom of the list in Table 13-3.
___d. Remove the Startup disk and press the Reset button on the front panel of the computer to restart your computer.
___e. Choose Windows Millennium from the OS menu.



Using RegEdit

To begin the procedure you must save a copy of the Registry keys, so that they can be restored to the previous settings. Please note that it is important to observe this procedure exactly. Also, most changes will not take effect until Windows is exited and restarted.

1. Start the RegEdit function

- ___a. From the Start menu, select Run and type **regedit** in the Open text box.
___b. Click the OK button to open the *Registry Editor*.

The RegEdit screen will appear, similar to that shown in Figure 13-1, where the Registry's main keys are depicted.

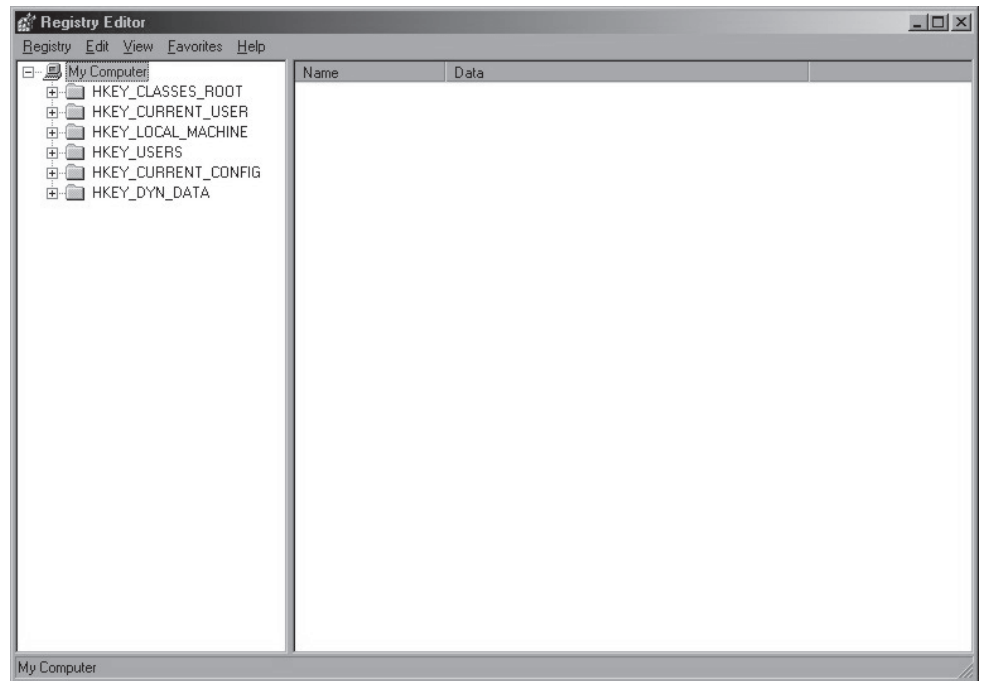


Figure 13-1: Registry Editor

RegEdit Screen

Keys and subkeys have nodes assigned to them. Normally, the node will have a + sign if it has not been expanded. To expand the node, simply click on the plus (+) sign. The node will change to a minus (-) sign, and the structure of the node will be expanded to show the subkeys directly below it. To collapse the structure, click on the minus sign.

When a subkey is selected, a Value Entry will appear in the window on the right side of the screen. There are three parts to the Value Entry—the type of data (as denoted by the symbol in the icon), the name of the value, and the value setting. The value can be one of two types—binary data signified by 0s and 1s in the icon, or human-readable character strings signified by an “ab” character pair in the icon.



1. Export the Registry to a backup disk

- ___ a. In the menu bar, click the Registry menu and then select Export Registry.
- ___ b. Click the radio button next to “All” to select it.
- ___ c. Click the down arrow to open the Save in drop-down menu and select the C: drive.
- ___ d. In the File name text box, type **regback** and then click the Save button to begin the exporting process.
- ___ e. Use the Start/Programs/Accessories and select *Windows Explorer*.
- ___ f. Click the plus (+) sign next to My Computer to expand the directory tree.
- ___ g. Highlight the C: drive on the left side of the window, and then scroll through the list of files on the right to verify that the backup field *regback.reg* is there.
- ___ h. Close *Windows Explorer* by clicking the X button in the upper right corner of the window

NOTE: Normally you wouldn't back up the Registry to the computer that the Registry belongs to. You wouldn't be able to successfully back up the Registry if you couldn't access the contents of that computer to restore the Registry. The size of the backed up Registry is much larger than a floppy disk can hold and without the computers networked at this time, there isn't much else to do. This will however make you familiar with backing up the Registry.

2. Review the method for restoring the Registry after changes

- ___ a. From within the Registry Editor window, click the Help menu in the menu bar and select Help Topics.
- ___ b. In the left window pane, click on “Restore the registry” to bring the help file on this subject into view in the right window pane.
- ___ c. Record the steps shown in the right window pane for restoring the Registry in Table 13-4.
- ___ d. Click the X in the upper right corner to close the Registry Editor Help window.



HKEY_CLASSES_ROOT

The HKEY_CLASSES_ROOT key contains information that defines certain software settings.

1. Examine several Windows Me file type definitions

- ___ a. Double-click on the HKEY_CLASSES_ROOT key.
- ___ b. Scroll down through the File Type listing, and click the ani entry.
- ___ c. Record the type of data this file extension represents, from under the Data column on the right, in Table 13-5a.
- ___ d. Repeat Steps b and c for the avi, bmp, and jpeg file types.
- ___ e. Record the definitions from Step d in Table 13-5b through d.

HKEY_LOCAL_MACHINE

The HKEY_LOCAL_MACHINE key contains specific hardware and software settings information about the local system.

1. Examine the contents of the HKEY_LOCAL_MACHINE key

- ___ a. Double-click the HKEY_LOCAL_MACHINE key.
- ___ b. Double-click the CONFIG folder.
- ___ c. Double-click the 0001 and DISPLAY folders.
- ___ d. Select the FONTS folder, and record the font types currently available for the monitor in Table 13-6.
- ___ e. Select the SETTINGS folder for the Display.
- ___ f. Record the Setting values for the monitor display in Table 13-7.



2. Examine the system's configuration settings in the HKEY_LOCAL_MACHINE key

- ___ a. Move to and open the System/Current Control Set/Control/Print/Printers subkey.
- ___ b. List any installed printer drivers in Table 13-8.
- ___ c. Close all extended subkeys by clicking on their minus (-) signs.
- ___ d. Close the Registry window

HKEY_CURRENT_USER

The HKEY_CURRENT_USER key contains information about all of the users that are currently logged on the system. It points to the HKEY_USERS key. In this section of the procedure, the interrelationships between the Control Panel, and the HKEY_CURRENT_USER and HKEY_USERS keys will be demonstrated.

1. Check the color settings in the Control Panel

- ___ a. Double-click the My Computer icon on the desktop.
- ___ b. Double-click the Control Panel icon.
- ___ c. Double-click the Display icon.
- ___ d. Click the Appearance tab.
- ___ e. Click the down arrow to open the Item drop-down menu and select Active Title.
- ___ f. Click the 1st Color button.
- ___ g. Click the Other button at the bottom of the color swatches.
- ___ h. Record the color values for red, green, and blue in Table 13-9a through c.
- ___ i. Using the position site finder inside the palette, and the Luminance arrow to the right of the palette, change the color to what is shown in Figure 13-2.

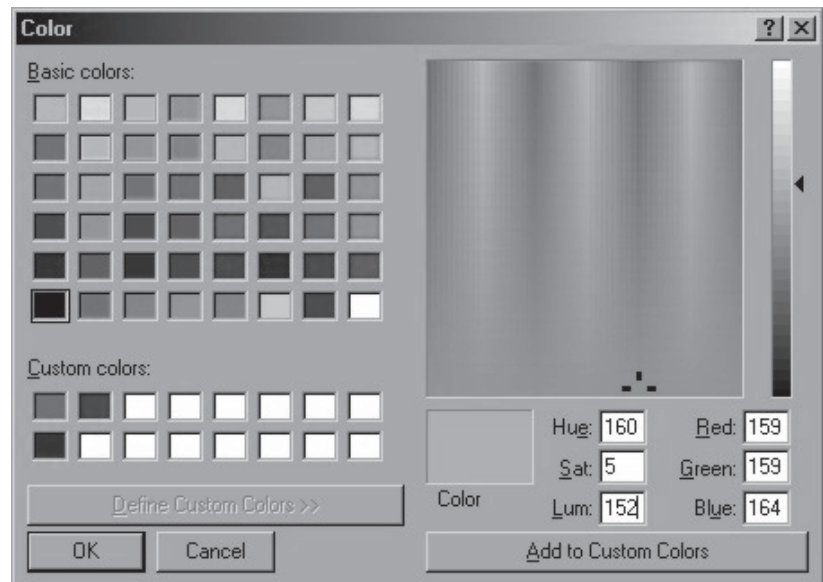


Figure 13-2: Windows Display Color Palette

PROCEDURE - 13

- ___ j. Record the final red, blue, and green color values in Table 13-9d through f.
- ___ k. Click two OK buttons to return to the Control Panel window.
- ___ l. Close the Control Panel.
- ___ m. Close the My Computer window.



2. Examine the Control Panel settings in the HKEY_CURRENT_USER key

- ___ a. Open the Registry and double-click the HKEY_CURRENT_USER key.
- ___ b. Double-click the CONTROL PANEL folder.
- ___ c. Click the COLORS folder.
- ___ d. Record the color values for the Active Title in Table 13-9g.

3. Examine the Control Panel settings in the HKEY_USERS key

- ___ a. Scroll down to the HKEY_USERS key and double-click on it.
- ___ b. Double-click the DEFAULT folder.
- ___ c. Double-click the CONTROL PANEL folder.
- ___ d. Click the COLORS folder.
- ___ e. Record the color values for the Active Title in Table 13-9h.

Adjusting Color Values



1. Compare the change to the definition keys

- ___ a. Navigate to HKEY_CURRENT_USER/Control Panel and click the COLORS folder.
- ___ b. Record the color values for the Active Title in Table 13-9i.
- ___ c. Navigate back to the HKEY_USERS/Default/Control Panel and click the COLORS folder.
- ___ d. Record the color values for the Active Title in Table 13-9j.

2. Review the Devices controlled by the CONTROL PANEL folder

- ___ a. Move to the CONTROL PANEL folder in the HKEY_CURRENT_USER key and select it.
- ___ b. List the system devices found under the Control Panel in Table 13-10.

3. Close the Registry Editor

TABLES

Table 13-1

Files Created on Startup Disk		

Table 13-2

Subheading in CONFIG.SYS File		

Table 13-3

Number of Files and Directories in C:\ Root Directory	
Files:	
Directories:	

PROCEDURE - 13

Table 13-4

Steps for Restoring the Registry

Table 13-5

Windows Me File Type Definitions

Table 13-6

Available Font Types

Table 13-7

Display Setting Values			
Setting	Value	Setting	Value

Table 13-8

Installed Printers	

Table 13-9

Color Setting of Active Title			
Table	Value	Table	Value

Table 13-10

System Devices Under Control Panel	



Feedback



LAB QUESTIONS

To answer some of these questions, it will be necessary to have the tools on the display screen.

1. Where in Windows did you go to create the Startup disk?
2. What would you use the Setup disk for?
3. Which tool is used to place restrictions on different parts of the system?
4. Where is the screen’s color information found in the Registry?
5. What are the three parts of a subkey value entry?
6. How is a key or subkey entry expanded?