

TIME WARPING CONSUMER ELECTRONICS PRODUCTS

-by Jeff Kane, KB9QQE
510 Green Bay Road
Thiensville, WI 53092
Jkane@execpc.com

[As I promised you last month, this month's column is by a guest writer. Jeff is a member of the Ozaukee Radio Club as well as a member of my OZARES group. He works in the computer field as a systems designer. I have had him check my column for accuracy on several occasions, including the Y2K article last month. Jeff presents here the most comprehensive and foolproof method of testing your computer, and your other electronic devices, for the Y2K problem. Thanks, Jeff, for sharing your knowledge! Stan WB9RQR]

If you have a concern for the millennium bug, the best thing to do is what we call "Time Warping". Time Warping is simple. Computers do not know the difference between real time and virtual reality. Just tell them today is January 1st, 2000, and they will believe you and act accordingly!

The following steps, or at least the approach they outline, will work with just about any product, be it a computer, a VCR, an alarm clock, or any other programmable consumer electronic device. On the other hand, please realize also that there are so many different products out there that it is impossible to cover them all in detail. The following is an attempt to generalize enough to get questions flowing and to provide you with a step-by-step approach to see if you need to be concerned.

Remember anything with a date in it is vulnerable to some sort of Y2K problem. The older the device, the greater the chance for a problem. Murphy's Laws also remind us that the more important the item is, the greater the chances for failure. :)

DO NOT PROCEED WITHOUT FIRST PREPARING A KNOWN GOOD BACKUP! Verify that the backup you make is usable. You may lose EVERYTHING while doing this test procedure, which will require that you restore everything from the backup.

1. Warp to December 1999.

Set your clock to December 1999 at 23:50 (12:50 p.m.). Wait and watch what happens. Look at the clock/calendar on the device and see what happens when it should roll over to 2000. If it does not roll over, the Operating System (or hardware for VCR's and clocks) is not Y2K compatible.

Note that most ordinary electronic clocks do not keep track of the year, thus making the above test irrelevant. However, feel free to do the test if you really want to be sure that there is no problem.

If testing a computer, play around a little see if programs open and start, as they should. With a VCR, set it to record in 5 minutes and see if it does. With a clock, set an alarm for 5 minutes away, and see if it works. The general idea is the same with all these devices - just try a few things to see if everything works, as it should.

Even if the roll over to 2000 failed, if your applications/alarms/recordings are working, you can be happy!

2. Test your unit through a power-off cycle.

Turn the power off to the device. This will test the battery/backup power. Wait a couple minutes, and turn it back on. Try everything out again.

First, is the date and time the same as it was before you powered it off? Even if it was wrong before, is it the "same wrong"? If it is the same, your hardware has done the best it could. If it is the same AND shows you the correct date and time (per our warped time test), you have Y2K rollover compliant hardware! Jump up and down. Toast the New Year!

Now you will want to try doing some basic things. Set an alarm or recording event again. Open all applications and see what they do. If every thing opens, you are well on your way to being OK.

3. Now, really turn off the power.

Even though you switched off the unit in the last test, it may not have been truly deprived of juice. Many devices still suck electrons from the commercial lines when the power switch is turned off. This time, really deprive it; pull out the power cord. Some consumer devices lose all programming when this happens. You all know the flashing 12:00 joke. Been there, right? Well, you need to be able to recover from a power loss. You will have to reprogram it now.

After the power cord has been out of the wall for a minute or so, plug it back in. Go through all the steps above again. Try a few things to see what happens.

Some devices have a battery in them. Like your alarm clock. It keeps time if power goes out. You need to remove that battery to find out if you can reprogram it. If it still works OK, you have Y2K compatible hardware! Drink another toast to the millennium.

Your hardware and its interface to software are working if all has gone well to this point. There are so many unknowns, that something may have been missed, but at least you have tried.

4. Warp the Operating System.

WARNING: You are getting to a point of no return. In this phase, you could change a date on a file that will make it nearly impossible to get back to today without completely restoring your files from a backup.

Your tests so far may indicate that the hardware is talking to the operating system, but does the OS know what to do with that date? We'll test file handling to find out. File handling is the biggest part of the OS, but you can use this kind of testing idea on any DOS command whether it handles files or not.

Go to a DOS prompt, or to File Manager/Explorer. Set to File Manager/Explorer to display file details. At a DOS prompt, enter DIR to see the file dates. Look at the dates. Are they all OK? At a DOS prompt, type COPY CON TEST and press the ENTER key. Type some text and press the ENTER key a couple of times. Type CTRL-Z (hold the CTRL key down and press the Z key) to end. Do another DIR and see what date the new file TEST has. If it is our warped date, all is well. From Windows, create a new file by selecting FILE, then NEW, then TEXT DOCUMENT. See what date was given to the new file. Again, if it is our warped date and time, you are doing well. If not, you are out of luck.

Next, at a DOS command prompt, enter TYPE TEST | MORE. You should get a screen echo of what you typed into the file earlier. Do this with a couple of other files to see if it works OK.

You might try the following DOS commands as well: MOVE, DEL, REN (rename), MD (make directory), RD (remove directory), XCOPY, MEM, SCANDISK, SORT, FIND, and any others you like. Once you feel comfortable with the file and OS systems, you can move on to the next step.

5. Warp the Software.

Software may be the worst part of the problem. Although not really relevant to most consumer electronics except computers, you can still use these testing concepts on firmware in any device that cares what year it is.

Be aware that if you have important spreadsheets, or synchronized files from any application, this testing may get those files out of sync, and you may not get them back into sync.

Open up the application. Open the file you want to work with. This may be a spreadsheet, document, or database. It may be your checking account software, or even your email browser. It does not matter since you will want to test all of them.

Make some changes to the file, and save it. Exit the application, and restart it. Open the file again, and see if the changes took. Exit and shut down the computer. Reboot and repeat opening of the file.

Do this for all files you want to test. While you have the application open, try printing to see if that works properly. Since most Windows applications use the very same Windows printer drivers, you probably don't have to test printing of all files, but a small sample would be good. When you have opened, changed, saved, and closed all the files you care to, you are ready for heavy duty application testing.

Make a spreadsheet change that involves a calculation. It would be safest to try changing all the fields that you normally would. Do the save, shutdown, restart thing again, and see if it still works. Do this for database and other applications as well.

Dial up your Internet provider, and see if all the pieces work here also. Remember, your date is warped, so if you send mail, or post messages, you will get strange results. Keep this in mind. Everyone else is at the real today. If you have an Internet time program running, it may try to reset you back to the present.

There are so many applications out there that you have to decide what is best for you to test. Just try as many things as you can think of. Use these ideas as guides.

6. Assess your problems.

If you made it this far without errors or problems, you should feel confident that your machine successfully passed the warp test. If there were failures, you need to assess the severity. In other words, can you live with the problems, or do you need new hardware? Alternatively, will updated software solve your problems?

7. UnWarp!

OK, now that you have thoroughly messed up the date, how do you get back to today?

There are a couple of things to pay attention to. As mentioned earlier, you need to make sure all the new file dates you created during the testing do not effect you once you return to today. Make sure you did not mess with any files that do automatic timestamp compares. My Briefcase is a perfect example. If you did, you may need to copy those files back from your backup to get the time and date stamp right again. Alternatively, if you have Norton Utilities Version 8 for DOS on your machine, you can use the FD (file date) program to change file dates and times as you

please. All you really need to do is to change the file dates and times back to now. Then reboot and things should be back to normal. Work as you normally do, and enjoy the new millennium! You are done.

8. What is the next problem?

You mean there is more? Yep. I would suggest doing the whole thing again, using 2001, 2003, 2006, 2015, or as long as you plan to own your machine. You see, the year 2000 is not the only limitation written into electronic devices. Some ATT computers had a problem with the year 1984. Some computers are going to run out of digits in 2032! The programmer of each device picks a date as time zero, and then has the device count up to get to today. When the device runs out of digits, the counter goes back to zero. Both 8-bit and 16-bit operating systems had this problem in the past. Today we are dealing with 32 bit systems, and they will run out of numbers in about 30 years, depending on exactly what day they started with. Hopefully, 64 bit OSs will not run out for a couple of hundred years! Ever hear of built-in obsolescence? A perfect example!

No one except the original programmer can tell you when the application will stop counting, and he isn't talking! Just prepare yourself by having lots of good backups. And, rotate those backups. Don't ever use the same tape. If you do and if the backup fails, you have no old one to go back to, and you just lost your only good one! Not a happy prospect. Good luck, and as Stan says, Happy Computing!