



## Percussive Maintenance Is Not A Viable Option

PERCUSSIVE MAINTENANCE (BEATING A RECALCITRANT ELECTRONIC DEVICE WITH A HAMMER) RARELY FIXES A PROBLEM AND OFTEN CREATES A NEW ONE. INSTEAD, MANY TECHNICIANS RECOMMEND USING A MAGIC WAND.

But unlike the magic wand Harry Potter carried around, you don't have to visit Ollivanders in Diagon Alley. It won't even cost seven galleons, and it isn't even a real wand. Start with an old thumb drive that's lying around and load it with some portable applications that can be downloaded and installed for free.

If you don't have an old thumb drive lying around, you may have to buy a new one. It doesn't need much capacity, so it won't cost more than ten dollars.

Besides offering quick access to security, antivirus apps, and other utilities, a thumb drive can contain dozens of useful apps for web browsing, email, word processing, spreadsheets, and more.

### Essential Apps When Needed

ALTHOUGH YOU CAN SEEK OUT ESSENTIAL COMPUTER MAINTENANCE APPS AND DOWNLOAD THEM INDIVIDUALLY, MY PREFERENCE IS TO USE PORTABLEAPPS ("YOUR COMPUTER, WITHOUT THE COMPUTER").

Even if you download all of the more than 400 apps, they consume only 35GB of disk space, and 64GB thumb drives can be found for less than \$10. Some stores even give them away as promotional items.

Because these are portable apps, they run directly from the thumb drive without the need for installation on the computer. All the apps from PortableApps are free and open-source, so you won't find Microsoft Word or Adobe Illustrator. Although all the apps are



**PERCUSSIVE MAINTENANCE IS RARELY SUCCESSFUL AND WILL DEFINITELY VOID THE WARRANTY.**

free, some may request a donation, as does PortableApps, but donations are not required.

Download the [PortableApps installer](#) and run it to install the application on your thumb drive. PortableApps needs to be installed, but the applications you select to include do not. The apps can be placed on the thumb drive or stored in a cloud-based directory. When you unplug the thumb drive or disconnect from the remote directory, none of your information will be left behind on the computer.

### Preparing The Thumb Drive

BEFORE INSTALLING PORTABLEAPPS, FORMAT THE THUMB DRIVE. ANY DATA ON THE DRIVE WILL BE ERASED.

Windows suggests formatting thumb drives as eFAT (extended file allocation table), but you might think it would be better

to change that to NTFS. After all, Windows uses the NT file system for its internal drives.

Because you're making a utility disk that will run only on Windows, either format option is acceptable, but sometimes USB drives are used to share files between Windows computers and MacOS computers. If you think that you might ever need to do that, choose eFAT because Macs can read files from an NTFS volume, but the MacOS can't write files to an NTFS volume unless you've installed a third-party utility. So eFAT is the most adaptable option. FAT 32 may also be offered, and there is one situation in which that would be the right choice. I'll get to that in a bit.

### Add Portable Apps

WHEN THE THUMB DRIVE IS FORMATTED, PREPARE PORTABLEAPPS BY RUNNING THE INSTALLER.

There are several options for the installation, the most common being to install on a thumb drive, but you can also choose to install on a cloud-based system, or to install locally for the current user or all users, or to select a custom location.

If you choose a portable installation, the installer will look for any attached thumb drives. If you have multiple thumb drives attached to the computer, be sure you select the right one.

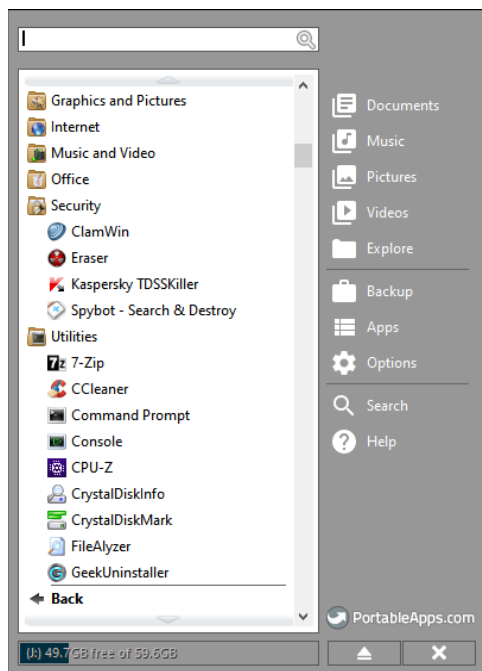
When the installation is complete, navigate to the thumb drive with a file explorer and double-click Start.exe. Then select the portable applications you want to add to the thumb drive and click Next to start the process.

You will probably see a warning that some of the portable apps will need input from you as they're being installed. Click OK to proceed. Depending on the number of apps you've selected and how many of them need input from you as they're being downloaded, the process may take a while.

The portable applications are not being installed on your computer; they are simply being added to PortableApps on the thumb drive. When the process is complete, the thumb drive will have a directory for each application you requested.

## Using Portable Apps

To use one of these portable applications, plug the thumb drive in and run Start.exe. PortableApps will open in the lower right corner of the screen and will list the installed applications. Select an app category to open the list, then click the name of the application you want to use.



Some applications will open immediately. Those that require elevated permissions will display a User Access Control dialog.

Each time you activate PortableApps, it will check the installed apps to see if any of them have been updated since you last used the thumb drive. If updates are available, you can have PortableApps download and add the new versions to the thumb drive or delay the update to a more convenient time.



**WHEN SOMETHING GOES WRONG WITH A COMPUTER, A THUMB DRIVE WITH EMERGENCY UTILITIES CAN BE USED TO IDENTIFY AND REPAIR THE PROBLEM.**

## Emergency Thumb Drive

ANOTHER GOOD TOOL TO HAVE IN YOUR POCKET IS A THUMB DRIVE THAT CAN BE USED TO BOOT THE COMPUTER.

In the old days, if something went wrong with your Windows 95 computer, you just booted the machine from the first of thirteen floppy disks, and either fixed the problem or reinstalled Windows. Windows 98 was primarily distributed on CDs that also were bootable. No computers have floppy disk drives today and few have optical drives, so a thumb-drive option is needed.

The [Ultimate Boot CD \(UBCD\)](#) can be installed on a thumb drive and it includes more than 100 PC hardware diagnostic tools. The process isn't difficult.

Download the UBCD ISO file, an image of the Ultimate Boot CD. You'll need a very small thumb drive, one that's no larger than 32MB because it must be formatted as a FAT drive, not eFAT or NTFS. The [Universal USB Installer](#) makes creation of the boot drive easy. Insert the USB thumb drive and run the application to start.

On the initial screen, click to display a long list of ISO files and choose "Ultimate Boot CD". Then click the browse button to locate the ISO file. When you click the step-three button, you may see more than one USB drive. If so, choose carefully because this process will delete anything that's on the drive.

Confirm that you have selected the correct USB drive and then click the Yes button.

The process takes only a few minutes and will end with a success message. You now have an emergency boot disk.

When you've created the Ultimate Boot CD thumb drive, you should test it by using the same process that you'll follow when you need to use it in an emergency.

## Prepare The Computer

FOR THE BEST SECURITY, A COMPUTER SHOULD NOT NORMALLY LOOK FOR A USB DRIVE BEFORE BOOTING FROM THE HARD DRIVE.

That means using the Ultimate Boot CD on a thumb drive requires that you must set the computer's BIOS to boot first from a USB device when one is present.

This is where it can get a bit sticky. Each computer manufacturer has a specific way for users to access the BIOS settings, and sometimes these vary from one model to another.

Visit the manufacturer's website to find out how to open the BIOS settings, and then change the boot sequence order to look for a USB drive before booting from the internal hard drive.

When you need to use the UBCD utilities, it will be because the computer won't boot. That means you won't have access to files on the computer and you won't have an internet connection.

You can use a second computer, a tablet, or a mobile phone to find instructions, but it's a good idea to print at least some of the basic instructions or save the instructions to the phone or alternate computer.

Creating a Portable Apps thumb drive and an Ultimate Boot CD thumb drive are easy tasks. Spending a few minutes now can reduce the amount of time needed to correct a problem when one occurs.

When. Not if. 