



**HUGE this month:**  
 General Meeting: Apr. 16th

Leftovers  
 See you there!

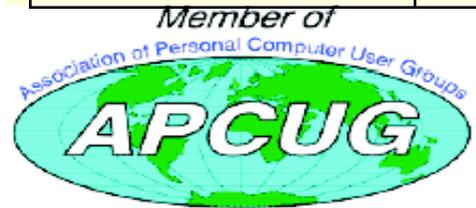
New Location !!!!!

**Knights of Columbus**  
**2533 Main Street, Glastonbury,**  
**CT**

Q&A Session: 7:00PM–7:30PM  
 Meeting starts at: 7:30PM

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**MEETING LOCATION**  
Knights of Columbus  
2533 Main Street  
Glastonbury, CT



# Editor's Corner

Thought we'd finish up a few items not finished over the past few months.

In the news: Swiss researchers have developed the world's smallest medical implant to monitor critical chemicals in the blood. It can transmit the data to a smartphone. They hope it will be able to predict heart attacks, monitor diabetes, kidneys, and a few other conditions.

Researchers at the University of Texas in Austin have created a new, ultra-thin (0.15mm) Harry Potter-like invisibility cloak. At the moment it can hide items from microwaves.

Apple has begun using a 2 step authentication scheme for iCloud and Apple IDs.

The U.S. Court of Appeals for the Ninth Circuit recently held that border agents *do* need to have reasonable suspicion in order to conduct forensic searches of electronic devices belonging to travelers at the border.

Brown University researchers have succeeded in creating the first wireless, implantable, rechargeable, long-term brain-computer interface. Scientists can now analyze its brain activity during complex activity. The wireless BCIs have been implanted in pigs and monkeys for over 13 months without issue, and human subjects are next.

There are 2 technologies competing to increase the speed of Wifi by up to 7 times faster than the current fastest 802.11ac. They both harness the unlicensed 60GHz frequency band, and will be capable of offering more bandwidth than hardwired USB 3.0 connections.

The WirelessHD (<http://www.wirelesshd.org/>) Consortium, led by chip maker Silicon Image, is selling products today. The Wireless Gigabit Alliance (WiGig (<http://wirelessgigabitalliance.org/>)), led by chip makers Marvell and Wilocity, won't kick off its certification program until 2014. This is VHS vs. Betamax, and no one knows which is which.

Tethercell is a battery adapter that lets you control and monitor AA battery- operated devices using your smartphone or tablet. You can turn them on & off.

MIT researchers have demonstrated, for the first time, that memories are stored in specific brain cells.

cont on pg. 9

Here is the appropriate copyright citation and a link to the full text. articles from "Tidbits"

<http://creativecommons.org/licenses/by-nc-nd/3.0/>



# A Little Computer Quiz

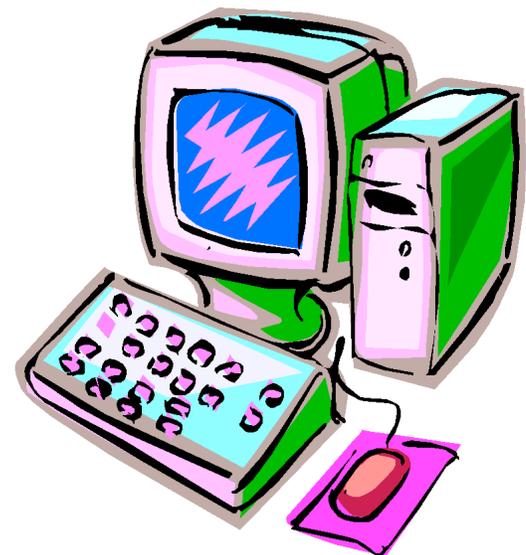
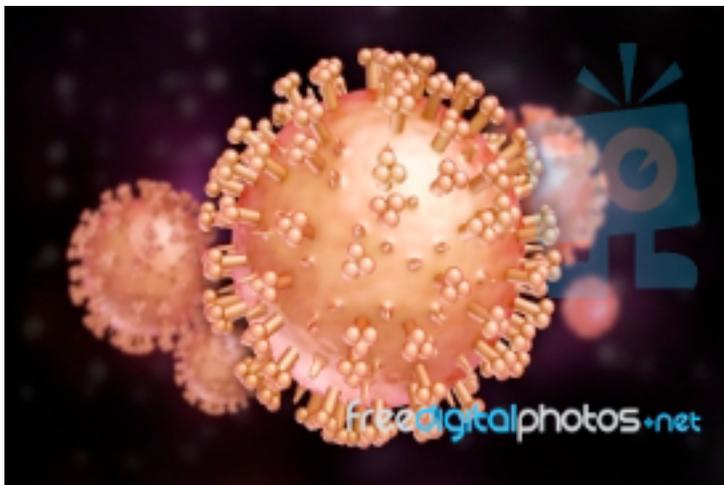
by Stuart Rabinowitz

The trivia and minutiae of the computer related world. The answers will appear next month or you can submit an answer sheet at the General Meeting. Good Luck.

- 1 Who coined the term "computer virus" and when?
- 2 1987 saw the release of computer viruses 'Brain' and 'Stoned', which was the first documented virus?
- 3 In 1988 John McAfee and Eugene Kaspersky are reported to have been on a mailing list that tracked and developed methods of dealing with virus attacks. They went on to start anti-virus software companies, but what was the name of that list that got them started?
- 4 On Jan. 26, 1983 the first copy of what software was sold?
- 5 DRM, which links software/media to a specific account or piece of hardware, had an origin on what computer?

## Answers to March, 2013 Quiz

- 1 What is Craig Silverstein's reason for being in the quiz?  
A He was the first official Google employee.
- 2 BackRub was the original name for what software product?  
A Google
- 3 Recently a number of companies are announcing touchscreen laptops, but what was the first you called actually buy?  
A The Apple eMate
- 4 When was it released?  
A March, 1997
- 5 What operating system does it use?  
A Newton PDA



**FlippedBITS: Booting Your Mac from a Duplicate**

by Joe Kissell: <[joe@tidbits.com](mailto:joe@tidbits.com)>, @joekissellarticle link: <<http://tidbits.com/e/13618>>5 comments

In this first installment of FlippedBITS, I want to look at what happens when you boot your Mac from a duplicate (or “clone”) of your startup disk. In doing so, I hope to clear up several common points of confusion, particularly regarding ongoing backups and syncing other types of data.

For years I’ve recommended a three-pronged backup strategy consisting of versioned backups (such as those produced by Time Machine or CrashPlan), bootable duplicates (complete copies of everything on your startup disk, stored on an external drive), and offsite data storage (either in the cloud or by rotating physical media to other locations). Together, this combination can protect your data against almost any disaster, while making recovery as painless as possible. (For complete details about my suggested strategy, including the steps to create a bootable duplicate, see “Take Control of Backing Up Your Mac.”)

<<http://www.takecontrolbooks.com/backing-up?pt=TB1165>>

It’s simple enough to make a duplicate using a tool such as Carbon Copy Cloner or SuperDuper; having done that, you can use the duplicate to boot your Mac either by selecting it in the Startup Disk pane of System Preferences or by holding down Option while restarting and selecting the volume containing the duplicate. Doing so enables you to get back to work immediately if anything goes wrong with your startup disk; running from the duplicate makes your Mac behave as though nothing had happened. So far, so good.

<<http://bombich.com/>>

<<http://www.shirt-pocket.com/SuperDuper/SuperDuperDescription.html>>

But, based on numerous email exchanges I’ve had with people who have read my various books and articles about backups, what happens once you’ve booted from the duplicate is sometimes unclear. Some people expect a duplicate to behave entirely like the original in every situation, which turns out not to be quite true. Others worry that the duplicate will cause all sorts of problems because it’s not enough like the original, resulting in extra, unnecessary steps. To untangle things, let’s start with the least ambiguous situation.

**\*\*Swapping Your Startup Drive\*\*** – Suppose your Mac’s internal hard drive dies completely, so you remove it from your Mac and replace it with the drive on which you’d previously stored your bootable duplicate. Your Mac doesn’t care about the fact that the new hard drive may have a different brand, capacity, or speed. All it knows is: here’s a disk with exactly the same data in exactly the same place. It is, for all practical purposes, the same disk. You can carry on as if nothing happened; everything, including your backups, should simply pick up where they left off, which is almost certainly what you want.

Now, there is one little catch. What if there was a time lag between when you made the duplicate and when you started using it? And what if, during that lag, you created or edited data on your startupdisk — and backed it up to a destination

other than where your bootable duplicate is stored? Now you have a startup disk that’s somewhat out of date, and to make it current, you’ll have to go to that other backup to locate and restore any important files that were changed after you last updated the duplicate. This, I’m sorry to say, is often an entirely manual procedure. In many backup apps (and again, I’m thinking especially of Time Machine and CrashPlan), there’s no simple way to say, “Show me all and only the files that changed and were backed up after time x.” You may have to dig through folders one by one in your backup archive to find these files. You could ask the software to restore everything backed up after a certain time, overwriting any existing files, but that would take quite a while. It’s a pity that many otherwise highly competent backup apps don’t account for this usage case.

**\*\*Booting from an External Drive\*\*** – Although the situation I just described is the least ambiguous, it’s also relatively infrequent. The most likely scenario, which gets more confusing, is when your regular startup disk is still present and functional but you hook up your duplicate and boot from it temporarily. Perhaps you’re doing this to verify that the duplicate works (in which case you may be running from the duplicate for only a few minutes), or perhaps your startup disk is having problems and you want to run a disk repair utility while carrying on with your regular work.

Either way, let me start by saying what isn’t a problem in this scenario. For one thing, it doesn’t matter if your startup disk is external. Apart from speed differences, your Mac should behave identically whether the startup disk is connected via an internal SATA port, USB, FireWire, Thunderbolt, or whatever. So, don’t let that trouble you in the least. For another thing, it doesn’t matter if data happens to sync with the cloud while you’re booted from the duplicate. For example, if you use iCloud, your calendars, contacts, bookmarks, and so on will sync in the background. You need not worry that the outdated data already on your duplicate will somehow overwrite what’s in the cloud; on the contrary, the cloud has the “master” copy (sometimes called the “truth”), so it will bring the data on your duplicate disk up to date. Similarly, if you use Dropbox or another cloud-based file storage service, it will bring your disk up to date with the latest truth from the cloud, and it’s unnecessary for you to fret over that in the slightest.

(You do need to fret if you use POP for email, or if you have any rules or filters that file incoming email from IMAP or Exchange servers into local mailboxes. That could get messy, with the duplicate being changed in ways that can’t easily be applied back to the original, so if in doubt, refrain from checking your email at all while booted from the duplicate.)

You need not even worry about aliases — usually. When you create an alias to an item that’s on your current boot drive (that includes items in the Finder’s sidebar and in your Login Items list), Mac OS X



creates `_relative_` links. That means if you make a duplicate, boot from the duplicate, and open an alias, the item that opens is the one on the duplicate, not on the original disk. (And that's probably what you want.) That's not to say your Mac might not have a script, a symbolic link you created in Terminal, or some other pointer that references a file or folder by disk name, and if it does, you could accidentally open the wrong copy of a file or application, or save data to the wrong disk. (If you're concerned and want to be absolutely sure which item you're opening, navigate manually from the top level of your disk when booted from a duplicate.)

However, at least one significant thing is most likely different, even though you may not notice it. If your duplicate had the same name as your startup disk (presumably the most common case), something slightly weird can occasionally happen. Mac OS X won't let two mounted volumes have exactly the same name. In the Finder, they may `_look_` like they have the same name, but if you already have a volume called "Macintosh HD" mounted and then you mount a second one, behind the scenes, the second one gets a different working name (in this case, "Macintosh HD 1"). That's because many things that happen on your Mac depend on being able to locate a disk by name, and if there were any ambiguity, a file might get put in the wrong place.

Ordinarily, this on-the-fly renaming just works, but it's not foolproof. What if, during the time you have both "Macintosh HD" and "Macintosh HD 1" mounted, another user on your network connects to your Mac and copies a file to what is now "Macintosh HD" — your duplicate? You might not notice it, and when you switch back to your usual startup disk, the file would be missing. Similar things can happen with file-synchronization apps, software downloads, and other operations. Furthermore, sometimes Mac OS X gets confused and doesn't correctly update its behind-the-scenes list of volume names, so you could, for example, encounter a situation in which "Macintosh HD" is a volume you mounted `_after_` "Macintosh HD 1."

On the other hand, renaming your duplicate doesn't necessarily solve these problems. If your normal startup disk is named "Cindy" but you've booted temporarily from "Kate," you may avoid mismatched name issues right now — but later, if you have to start using "Kate" permanently, apps and users that were still trying to save data to "Cindy" could get confused. All in all, I think you'll get the best results if your duplicate has the same name as the original disk, but you should follow a few steps (just ahead) to avoid problems while running from the duplicate.

Meanwhile, you may have to think about another subtle background process: backups! After all, your backup software is probably configured to run automatically — perhaps once an hour (like Time Machine) or continuously (like CrashPlan). Backups usually don't begin immediately when you boot your Mac, but they could easily kick in within 10 or 15 minutes. What if you're planning to run your Mac from the duplicate for longer than that, but not permanently? Should you let your backups proceed — meaning they'll be backing up the duplicate — or should you turn them off?

In general, there's no harm, and considerable benefit, in letting backups run. Your backup software should act as though your duplicate is your regular startup disk and keep copying files to its normal destination as though you had restarted normally. That's probably what you want, because if you create or modify a file while running from the duplicate, it can then be backed up. The problem is, in fact, with the opposite case: what if you modify a file but it isn't backed up (perhaps because the time for the next periodic backup run hasn't rolled around yet)? When you switch back to your regular startup disk, the file won't be there (or won't be current), and it won't be in your backups either. It will still be on your duplicate — but only if you think to check there before you update your duplicate the next time; doing so will probably delete the new file because it's not on your startup disk.

Taking all this into account, here are my recommendations for what to do when you must boot from a duplicate for a short period of time:

- \* If you can avoid creating, modifying, or downloading files, do. If you can't, make sure they're synced to the cloud, copied back to your regular startup disk, backed up, or otherwise made available to yourself when you return to your usual disk later.

- \* Let regular, versioned backups (such as Time Machine and CrashPlan) run normally. But if (per the last point) you can't avoid creating files, make sure your backup software has in fact backed them up before switching back to your customary disk.

- \* Turn off any scheduled updates to your bootable duplicates. The last thing you want is for your duplicate disk to clone itself back onto your main startup disk while you're testing it, or for the software to freak out in trying to clone the original over the now-booted duplicate.

- \* Avoid letting other users connect to your Mac, especially to upload files.

**\*\*Booting a Different Mac\*\*** — There's one more scenario to consider: booting one Mac with a duplicate of another Mac's startup disk. For example, imagine that you created a duplicate of your iMac's startup disk and then you had to take your iMac to the shop for repairs. In the meantime, you hook up your duplicate to your MacBook Pro so it can "pretend" to be the iMac. As long as the MacBook Pro supports the same version of Mac OS X your iMac was running, this arrangement should work fine — with, as you might have guessed, a couple of qualifications.

First, although this situation is ostensibly similar to the last one — booting a Mac temporarily from another drive — the time frame involved could be longer (days or weeks instead of hours). So, it's impractical to avoid modifying files, checking your email, and the like. Therefore, I recommend that you use the duplicate disk

cont. on pg. 8

**Selecting a Digital Camera**

Jerry Schneur, Member, Los Angeles Computer Society

June 2012 issue, User Friendly

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As a teacher of digital photography I am often asked for help by a student who is trying to select the “perfect” camera. It is very hard to tell someone that there is “no one perfect camera”. What meets your needs today may not be great for tomorrow. I try to tell them that the most important thing about any camera is the six inches behind the camera, the photographer.

Having said all that, there are some things that make one camera a much better choice than another, regardless of the expressed needs of the potential buyer. Just remember to keep in mind that the camera you need for your trip to Africa is vastly different than what you need as you walk through a street market in Rome Italy. You also need to come to grips with how much you are willing to spend, how often you are willing to replace a camera, and how much time are you willing to put into an attempt to master, to understand, and to “play” with a camera.

There are some general features you should look for in any new camera. Unfortunately, this means I have to be a bit technical and you will have to spend some time digging out the details on any camera you are thinking about. So here goes:

**Sensor Size**

Most point and shoot (P&S) cameras, those you can stick in a shirt pocket or pocketbook use the same size sensor called the 1/2.3” which measures 6.17 x 4.55 mm. However, more and more, you may be seeing some cameras using larger sensors such as the 1/1.7”, 1/1.8”, and even a 2/3”. The larger sensors, the 1/1.7 or 1/1.8, or 2/3 inch offer much better low light performance, the pictures tend to be sharper, tend to have less noise or grain. Don’t confuse 1/2.3” with the 2/3”, they are very different in size, the 2/3” is much larger and therefore much better.

**Sensor Type**

The sensors that use a CCD type sensor are old school. They do produce reasonably good pictures but cannot keep up with the newer CMOS when it comes to movie making. Another type of CMOS sensor is called a BSI-CMOS and that is really the best of the lot, especially if you want to make high def movies or do a lot of photography in very low light.

**Number of Pixels**

With cameras that have the small sensors, more is NOT better. Look for cameras that have only 10-12 MP. More pixels, 14-24MP is only an advantage for cameras that have larger sensors, such as those found on the Nikon V1/J1, the Canon G1 X, the Sony NEX

5N or NEX 7, or the Fuji X10 or X100.

**Zoom Range**

Most, but not all cameras have optical zoom ranges from 3x to as large as 36x or more. What that zoom range really means is the “difference” from the widest angle to the greatest amount of zoom. As an example, a 10x optical zoom for a camera with a lens that has a wide angle of 28mm is 10x28 or 280mm. All these measurements are in 35mm film terms. For most purposes, that is an ample zoom range. Some of the cameras do not have any zooming whatever, others only have 3 or 4x optical zoom. Disregard or ignore any digital zoom values.

**Widest Angle**

This is a very important feature for anyone trying to take pictures in a street market setting or at a party or in any crowded situation. The SMALLER the starting number the greater the wide angle of the camera. A 36mm wide angle is not good, a 28mm lens is very good, but a 24mm one is even better. Taking pictures in confined spaces works better with the wider angle lens, you get more of the picture without having to step back. However, as the lens angle gets bigger, wider, more encompassing, distortion starts to rear its ugly head. Straight lines get bent and the results are not always pleasant.

**Maximum Zoom Range**

One might think that a large amount of maximum zoom would be good, very good, but there are penalties to pay for that long a zoom range, size and weight are two of the more important penalties. There are cameras with zoom ranges up to 18x optical that can still fit into a shirt pocket. Of course, these cameras do weigh more. But as you start going over 10x optical zoom the need for some type of viewfinder becomes much more important. At over 18x optical, the lack of any viewfinder would prevent me from buying the camera. There are attachments that can be screwed into the tripod hole of a camera that mimics to some extent a viewfinder. Check the website for ClearViewer [www.clearviewer.com/](http://www.clearviewer.com/) to see if they have a device for your camera.

The lack of a viewfinder for the longer end of the zoom range cameras really spells trouble. Camera shake becomes a real problem even for those cameras with very good image stabilization (I.S.).

**Aperture or F Stop**

The smaller the number the better the camera performs in dim or subdued light. In an attempt to keep camera prices down and camera size small, most cameras do not have a “fast or bright” lens. A “fast or bright” lens is one that lets in a lot of light very quickly. This allows for a fast shutter speed which allows the photographer to capture fast moving events. This is very important if you are taking pictures from a moving vehicle or of very fast moving subjects or action. The other advantage to a bigger lens opening is the shallow depth of field (DOF) that such a lens is able to provide. Objects in front of or behind the subject are blurred when shooting with a large lens opening, a nice way of

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### How to find Twitter's hidden options

By Linda Gonse, Editor/Webmaster, ORCOPUG (Orange County PCUG), California  
April 2012 issue, Nibbles 'n Bits  
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editor (at) orcopug.org

More people are using the Twitter social networking site and finding out that they like the mini-blog that allows them 140 characters to say whatever they want to say. But, there is more to Twitter than tweeting (posting a comment).

A new Twitter user might not realize there are options that are hidden, unless a user knows how to find them hiding in plain sight.

For instance, hovering over a tweet will reveal links that might not be found anywhere else.

What's more, depending on the type of tweet the hidden options will be different.

For instance, if I am just looking at my tweet on the page and not hovering the cursor over it, I only see the time or date when it was written in the upper right-hand corner.

If I hover my cursor over the tweet, however, hyperlinked options — Reply, Delete, Favorite, Open — appear on the same line as my name at the top of the tweet, but in the right corner in green text.

I can click on Reply to the person who posted the tweet. I can Delete the tweet. This option is only available to the person whose tweet is posted. In other words, only I will see the Delete link for my tweets. And, only I can delete my tweets. I can mark it as a Favorite—it won't be

cycled out of my timeline, but parked in a permanent area on my Profile page for favorite tweets when I want to reference it again. Finally, I can Open the tweet to read replies that others have had to this specific tweet.



If I hover my cursor over someone else's tweet the options are Reply, Retweet, Favorite, and Open. There's no Delete.



Clicking on the Open hyperlink allows the tweet to expand when other tweets are associated with it. The expanded tweet will also reveal if other people have favorited your tweet or retweeted it.



This is a recent innovation at Twitter. It is now possible to view your tweets in a thread, including replies to another person in their open threads. It is very convenient to view the conversations that are revealed, because there may be several hours, or sometimes days, between a tweet being posted and replies to it.



from pg. 5

The Open link automatically changes to a Close link. You can collapse all the tweets again, except the original tweet, when you have finished reading them.



### What you can do if your mobile phone gets wet

By Tom Allen, Publisher / Editor, Mountain Computer User Group, Georgia  
 May 2012 issue, Mountain Bits & Bites  
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Many of you get your mobile phone wet by one way or another. You worry as you mistakenly drop your mobile phone in water. It can also get wet if you are out in a heavy rain. However, there is no need to panic. It is possible to save your wet mobile phone by quickly repairing it. In order to save your mobile phone from water damage, you can consider doing this:

The most important thing you have to do is to act rapidly. Quickly remove all the detachable parts as well as covers possible such as the back cover, battery, the SIM card, memory card etc.

Next, take a piece of cloth or a tissue paper to wipe the excess water you are able to notice within the mobile phone. Make sure that you dry it completely. If you don't do this, the water inside the mobile phone will begin to evaporate and gather in places which will be difficult to reach.

Take a hairdryer and begin drying the mobile phone while giving more consideration to the place where the battery is located. The battery housing usually consists of tiny holes to let in air (so giving more space for water) inside the mobile phone. It will take several minutes. You may also set your oven to 180 degrees and let it preheat (if you are brave!). Turn it off, open the door and set the phone in it for about half an hour. I have done this but watched it very carefully and the phone survived.

on your MacBook Pro as you normally would use the internal drive on your iMac, and then — once your regular iMac is back in service —hook up the external duplicate and reverse the cloning process (copy everything from the external drive back to the iMac's internal drive it started on).

Second, while your MacBook Pro is running from the duplicate, it will by almost every measure appear to be the iMac. It'll even use the iMac's name for file sharing, screen sharing, and the like. However, every Mac has several unique identifiers, including a serial number, a UUID (universally unique identifier), and a MAC (media access control) address for each network interface. Some pieces of software check one or more of these unique identifiers to verify that they're still running on the same Mac on which they were authorized or licensed.

The most common example is iTunes. If you authorize your iMac to use your iTunes account and then start up your MacBook Pro with a duplicate of the iMac's disk, that doesn't mean the MacBook Pro is automatically authorized. You must authorize it manually, if you haven't done so previously (in iTunes, choose Store > Authorize This Computer). But, if you've already run out of authorizations —Apple limits you to five — you may be out of luck unless you can deauthorize one of your other computers or reset all your authorizations, the latter being something that Apple allows you to do only once per year. Other software may make you jump through similar (or worse) hoops.

<http://support.apple.com/kb/ht1420>

**\*\*Don't Sweat It\*\*** -- As convoluted as this all may sound, booting your Mac from a duplicate is usually a simple and problem-free operation. But it never hurts to have a better grip on what's going on behind the scenes, just in case. In particular, think about whether you're going to be using the duplicate long enough to add or modify files on it manually. If not, there's no harm in simply switching back to the original. But if you are going to be working from the duplicate for any significant period of time, you'll need to clone it back to the original when you're done. A final note: keep those duplicates up to date. It would be overkill to update them every hour, but once or twice a day is not a bad idea. Remember, the longer the gap between the last time you updated your duplicate and when you discovered you needed to boot from it, the greater the chance of missing or outdated files that you may have to laboriously restore.

---read/post comments:

<http://tidbits.com/e/13618#comments>>tweet this article:  
<http://tidbits.com/t/13618>>



from pg. 6

visually isolating your subject.

Most zoom lenses have two stated aperture values. One for the widest angle and one for the maximum zoom. The aperture at the widest angle generally ranges from f2.8 to f3.8. A lens with a f2.8 aperture at wide angle admits almost double the amount of light in a given time as one with a f3.8. At the other end of the zoom you will generally find aperture values of f5.5-f5.6. This means that for a given shutter speed the lens at maximum zoom can only let in about 1/4-1/8 of the light at maximum aperture. Thus at maximum zoom you have to use shutter speeds 1/4-1/8 that used when at maximum wide angle. If your camera can properly expose a scene at 1/250 of a second at maximum wide angle (24-28mm), you would need 1/30 to 1/15th of a second at maximum zoom, thus subject movement and camera shake become a greater problem. Another problem occurs because almost all of the point and shoot cameras require fairly bright settings to focus quickly and an f stop of f5.6 just doesn't do well, especially in dimmer light.

### Image Stabilization (IS)

Most cameras have image stabilization (IS) of some type. The better ones use either a moveable element in the lens, called OPTICAL IS or a movable SENSOR. Neither of these help when the subject is moving or you are moving, like in a vehicle. A few use other things like increasing the sensitivity of the sensor to light in order to use faster shutter speeds to minimize subject or camera motion. Some use a combination of different IS systems. The combination version has problems which are best avoided if possible. Some cameras allow you to turn off some parts of the IS very useful in your camera has multiple means of stabilizing the camera.

### Viewfinders

Most cameras in the P&S family of cameras do NOT have any type of viewfinder. It is only when you get to the more advanced cameras or the super-zoom cameras that you can find an electronic viewfinder (EVF). Viewfinders are very nice to have but are almost impossible to find in most of the P&S type cameras.

### LCD

The brightness of the LCD and the size contribute to the ability to use the camera in bright light and can either make the camera easy to use or a big pain you know where. Generally the more pixels or dots in the LCD the better, but unfortunately there are exceptions. You must evaluate the camera for ease of use in bright light. Some LCDs articulate, i.e., they move up and down or swivel around. That is generally a very desirable feature and can help when shooting in very bright light. Some LCDs are touch screen. You can point to an object displayed in the LCD and the camera will use that as a focus point. You may be able

to control various camera settings using the touch screen. Not everyone likes touch screen LCDs, if a camera has that feature, check it out, use it, some are easier to use than others.

There are two other points to consider, but these can only be evaluated by actually handling the camera. And even then, the pluses and minuses may escape notice unless you have handled a lot of other cameras.

### Camera Speed

This is not something you will find in any chart. What I am specifically referring to is how fast does the camera "grab" focus, how fast is the camera ready to take another picture, how fast is it ready to go to take a picture when turned on, how fast does the camera respond to menu commands?

### Controls

Menu system - Some cameras allow the photographer to make a lot of choices, some treat the photographer as not at all interested in the finer points of photography. What I mean here is your not letting the camera make all the choices. If you always shoot in the AUTO mode, then the ability to set the aperture or shutter speed is unimportant. But, if you are thinking about getting more involved in photography then it is something to consider

It is impossible to list some features that may be very important to some people, things such as built-in GPS or the various movie formats available. Prices are constantly changing, generally downward from when the camera was first introduced. Read reviews both by various websites and by the users of the cameras. My three favorite places to look are DPReview, CameraLabs, and ImagingResources. Steve's Digicam is also a good information source.

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from pg. 2

By triggering a small cluster of neurons, the researchers were able to force the subject to recall a specific memory.

Voyager I has left the solar system.

Editor-in-Chief:  
Stuart Rabinowitz



<b>PULP Staff</b>	
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Distribution	George Carbonell

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## April 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 1980 Pac-Man debuted	5	6
7	8	9	10	11	12 Yuri's Night	13
14	15 1968 Data General founded	16 General Meeting 7 PM	17	18	19	20 1977 Apple II announced
21	22	23 Pixel-Stained Technopeasant Day	24 1984 Apple IIC introduced	25	26	27
28	29	30				