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The Digital Viking



Twin Cities

PC USER GROUP

NEWSLETTER

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*TC/PC Exists to
Facilitate and Encourage
the Cooperative Exchange of
PC Knowledge and
Information Across
All Levels of Experience*

May 2023

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**General Meeting
Tuesday, May 9, 2023
7:00 PM**

**How to View and Photograph
The Night Sky and Northern Lights
Via Zoom Only**

Seeing the Northern Lights is an exciting and rare experience in the Twin Cities but we are lucky that there are more opportunities on trips up north. At our May meeting we will view some Youtube videos on the best apps for viewing the night sky, some tutorials on how to take photos of the northern lights as well as on mistakes rookie photographers make and how to avoid them. Some information is specific to the northern lights but some is valuable for general night sky viewing and photography so there is good information for all photographers and amateur astronomers. Share your own night photography tips with us. 📷

Note: All TC/PC Meetings and SIG Groups will be virtual until further notice. Visit tcpc.com for info.

Tech Topics with Jack Ungerleider via Zoom at 6pm before the General Meeting.

TC/PC is a
Member of



24-Hour Information • www.tcpc.com
Application form inside back cover

The Digital Viking

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Member Bus. Card (2 x 3½)	10.00

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Contact Sharon Walbran at: SQWalbran@yahoo.com

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Payment must accompany order unless other arrangements are made in advance. Place make checks payable to: Twin Cities PC User Group

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Meets once or twice per year. All members welcome to attend.

Visit www.tpcp.com for meeting details.

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Up to 5 newsletters mailed to
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(only a nominal cost for each
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Newsletter Staff Editor Sharon Walbran

QR Code Scams – Be careful where you point that smartphone

By Phil Sorrentino, Secretary and APCUG Rep, Sun City Center Computer Club

<https://sccccomputerclub.org/>

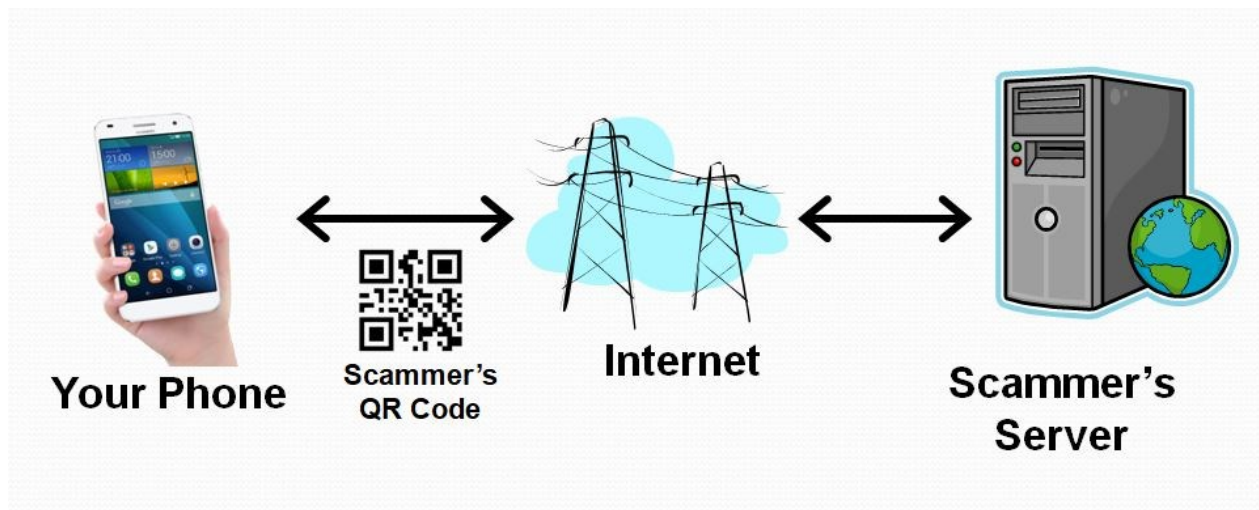
philsorr (at) yahoo.com

QR Codes seem to be everywhere today. You'll find them anywhere someone wants to give you more information than is possible by other means, like a sheet of paper or a machine-readable standard bar code. Initially, QR codes were created to track manufacturing processes where barcodes couldn't store enough information. However, a bar code has one dimension. A QR code is 2-dimensional and can store significantly more data than a bar code. Roughly speaking, a QR code may contain as many as 7,000 characters as opposed to a bar code that may contain up to around 40 characters. That's over 170 times the amount of data. This increased amount of information makes the QR code so worthwhile.

QR codes were invented in Japan in the 1990s. They were first used by the automotive industry to manage production but have spread everywhere. There are even websites and apps that let you make your own. A QR code is a machine-readable, 2 dimension matrix of black and white squares. A QR code may represent many different data types, such as text, a hyperlink to a website, a telephone number, an email address, or a text or email message. QR codes, like billboards, clothing labels, walls, TVs, and even tattoos, can be placed on almost anything. QR stands for Quick Response. Quick Response comes from the manufacturing industry and deals with how fast a product can be replaced on the seller's shelves. Quick Response is *"the rapid replenishment of a customer's stock by a supplier with direct access to data from the customer's point of sale."* A QR code is merely a data storage representation of some information using the binary code. (For example, the letter A is represented by "01000001") The little squares and patterns of the QR code represent the binary information. The actual QR code is read-only, so it cannot record or steal any personal information on its own. Nowadays, the smartphone's camera app can scan the QR code when the camera is directed at it. (Most smartphones no longer have to download a separate app from the App store for reading QR codes.)

A QR code with an embedded hyperlink to a website can connect you to a specific website quickly and easily using your smartphone. There is very little one needs to know to take advantage of a QR code. But a lot of the latest technology is being used to accomplish the task. The three major technology components are your smartphone, the internet, and a server (on the internet, or "in the cloud"). This collection of technologies goes by the name "Client-Server Technology," and all three components have been developed to work together. For example, your smartphone has a camera App that connects the smartphone, as the client, to the server website whose URL was embedded in the QR code. (URL is the Universal Resource Locator, the term for a web address on the internet.) This allows the provider of the QR code the ability to connect your phone with the QR code provider's server when you scan the QR code. Once connected to the server, the smartphone can access all the information that the server can provide.

QR codes take people from the physical world to the online (cyber) world. They let smartphones connect to an enormous world of information quickly and easily, but unfortunately, they also allow smartphones to connect quickly and easily to a scammer's website. This is why scammers have started using QR codes in attempting to get in touch with potential victims. It gets people online with the scammer's server. It is similar to "phishing" emails and telephone calls. QR codes are another way for scammers to get in touch with potential victims.



Many scammers (aka cybercriminals) have started to exploit the technology's convenience. Scammers create malicious QR codes to connect unwitting consumers to the scammer's server and dupe them into divulging their personal information. Anytime new technology comes out, cybercriminals attempt to find a way to exploit it. This is especially true with technology like QR codes. It seems like most people can figure out how to use them, but they probably don't really know how they work, and it's always easier to manipulate people when they don't understand their technology. Scanning the scammer's QR codes won't do anything malicious to your smartphone, such as installing malware. Still, it probably will take you to a website designed to try to get personal or financial information from you.

Like any other phishing scheme, it's impossible to know precisely how often QR codes are used for malicious purposes. Experts say they still represent a small percentage of overall phishing, but numerous QR code scams have been reported to the Better Business Bureau. As a result, many people know they need to be on the lookout for phishing links and questionable attachments in emails that purport to be from your bank. But thinking twice about scanning a QR code with your smartphone camera isn't second nature for most people yet.

Recently a QR code scam was uncovered in a Texas city. Drivers were led to a scammer's website after scanning a QR code sticker on a parking meter. Eventually, around 30 such stickers were found. The QR code was supposed to help the motorist pay for online parking. However, instead of being taken to the city's authorized website, the motorist who scanned the fake stickers was led to a fake website that collected their credit card information. With a warning of the parking meter scam, officials in another city issued a warning to motorists after spotting similar stickers on parking meters.

Fake QR codes have even shown up in emails. Scammers may like using QR codes in phishing emails because they often aren't picked up by security software, giving them a better chance than attachments or bad links to reach their intended targets. It boils down to QR codes being just one more way for cybercriminals to get what they want and yet another threat for people to be on the lookout for.

So be careful when scanning QR codes. Here are some tips from security experts. Think before you scan. Be especially wary of codes posted in public places. Take a good look and determine if the sticker is part of the sign or display. If the code doesn't look like it fits in with the background, it may have been put there by a scammer. Be suspicious of any QR code that comes in an email. If you scan a QR code, look at the website it led you to and determine if it looks like what you expected. If it doesn't look appropriate, then leave the website. If it asks for personal information you don't think is appropriate, don't provide it. And, in the words of one of the Computer Club's past presidents, Matt Batt, "Be careful out there!"



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Power Basics

By Dick Maybach, Brookdale Computer User Group

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Electrical power is remarkably reliable, especially considering that much of the system is exposed to the elements and sometimes wildlife. On the rare occasions when it does fail, it will be helpful if you know a bit about it. Troubleshooting by candlelight is seldom quick, and ignorance won't make it faster.

You may have noticed that electric power enters your home on three wires. Two of these, which we'll call "Phase 1" and "Phase 2," carry 110-V AC, and the third is neutral. Figure 1 shows the waveforms on the "hot" wires; the voltage on the neutral wire is always close to zero.

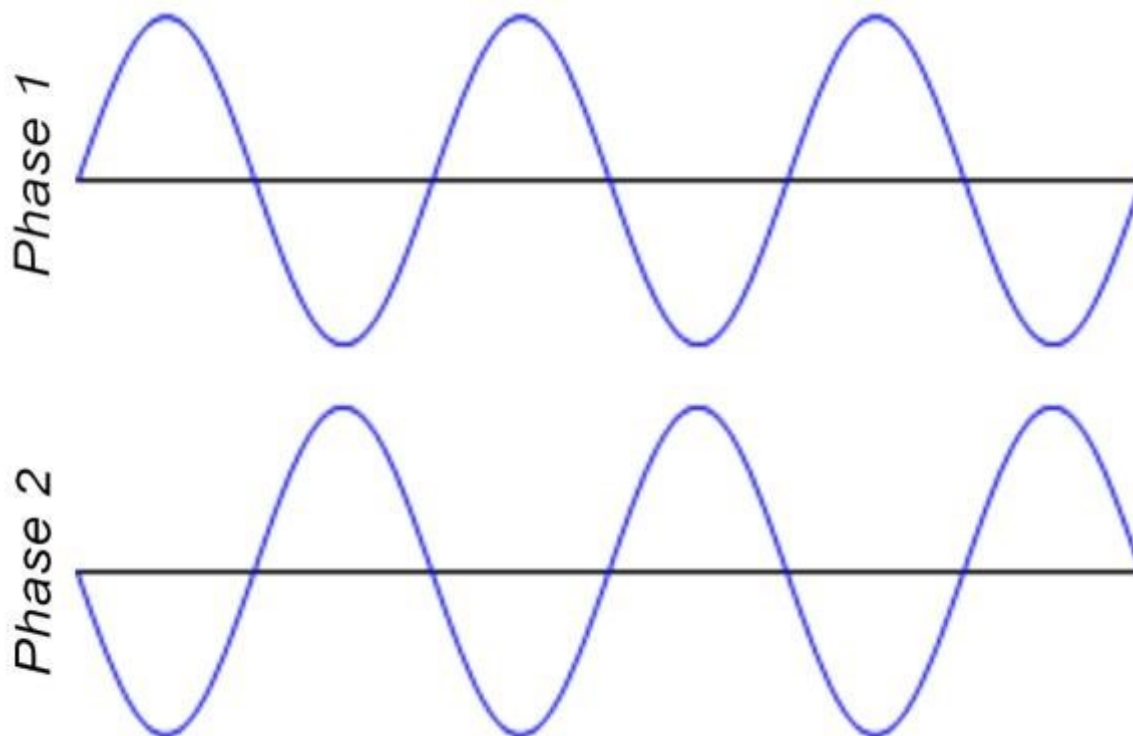


Figure 1. A-C Power Waveforms.

A 110-volt outlet connects to either phase 1 and neutral or phase 2 and neutral. For example, an appliance needing 220 volts connects to both phase 1 and phase 2. Since phase 2 is the negative of phase 1, such a connection applies twice the voltage to the appliance as that between one of the phases and neutral. Thus, although some devices may need 220 volts, the maximum voltage in your house is 110. By the way, if you measure the voltage, you will find it's about 125. When electric power was first developed, it was 110 volts, but that label is no longer accurate.

Figure 2 shows a portion of a home breaker box, which is the interface between your outlets and devices and the power company. At the top is the master breaker through which all the individual circuits connect. Turn this off to remove all the power in your house. Below are the breakers for the individual circuits. If your home is new, there is probably a sheet on the breaker box cover that lists what each breaker controls. In older houses, this sheet is often out-of-date or even missing. Note that the two top individual breakers are actually two individual ones; these are for 220-volt service. As you go from top to bottom, alternate breakers connect to phase 1 and phase 2. Thus, as breakers are added, the loads on phase 1 and phase 2 remain approximately equal, and adjacent breakers can control 220-volt circuits.

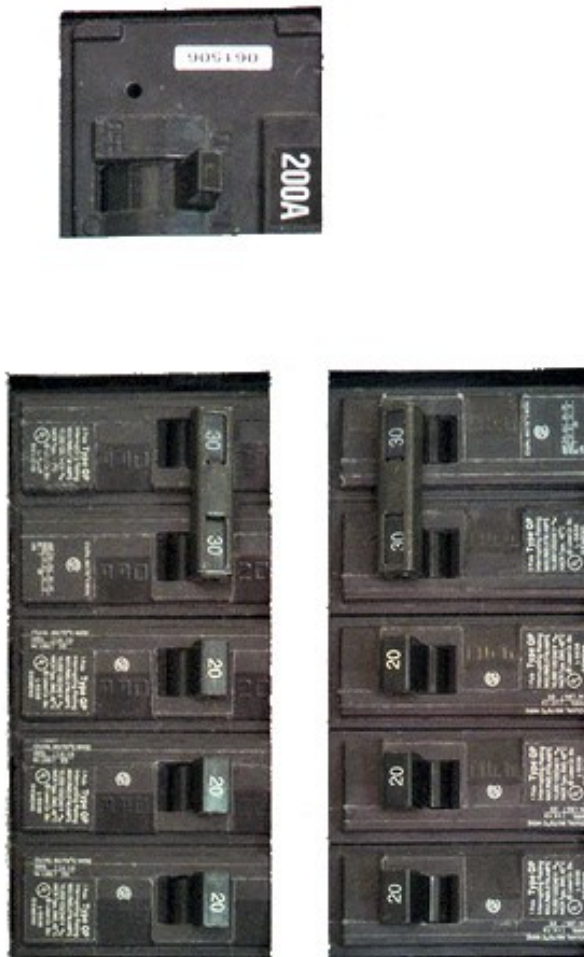


Figure 2. Residential Breaker Box.

There are two types of 110-volt outlets in the U.S., as shown in Figure 3, but the two-wire one is usually found only in older houses.

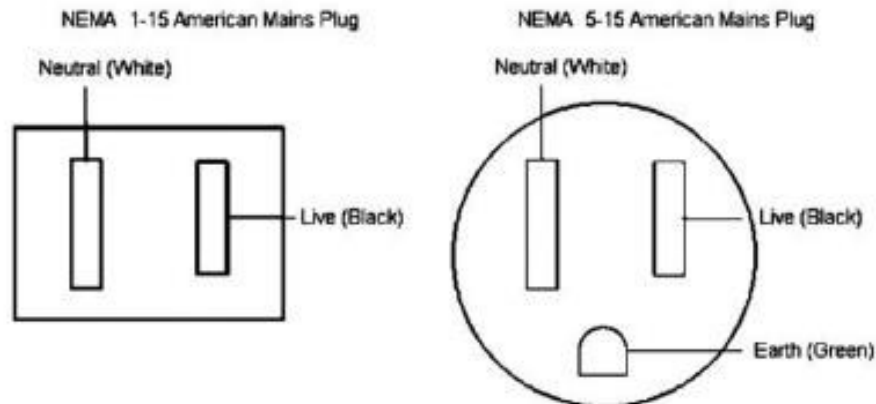


Figure 3. U.S. 110-volt Power Outlets.

The live slot connects to either phase 1 or phase 2 of the incoming power, and neutral connects to neutral. Ground does not connect to the power company but to a good earth ground in your home, typically the incoming water pipe.

You need an adapter between a 3-wire plug and a 2-wire outlet. If you use one, be sure to connect its ground wire to the screw that secures the outlet cover plate. If you have any doubts about your wiring, testers such as the one in Figure 4 are inexpensive insurance. As you can see from its label, the indicator lamp's pattern shows the outlet's state. It's also helpful during the first step of PC troubleshooting, ensuring it has electrical power.



Figure 4. AC Outlet Tester.

You can also use an inexpensive multi-meter to check the voltage at an outlet, but be careful when you insert the probes into the slot; touching 110 volts is always unpleasant and can be lethal. Non-contact testers avoid this hazard, but user reports indicate they aren't reliable.

If a circuit breaker trips repeatedly, either it's defective or the circuit is drawing too much current. Never replace it with one with a higher rating, as the wires in your house are sized to carry currents only up to the breaker rating. In Figure 2, for example, the wires in the 30-ampere circuits are thicker than those in the 20-ampere ones. If you exceed these currents, the voltage at the outlet will drop, and the temperature of the wires in the walls will rise, perhaps enough to degrade the insulation or even to start a fire. Therefore, any electrical work should be done only by a licensed electrician.

In newer homes, some outlets are protected by a Ground Fault Interrupter (GFI), most often in kitchens, bathrooms, and outside the house. Some, particularly those in kitchens and bathrooms, have a distinctive connector, Figure 5.



Figure 5. GFI Outlet.

If a GFI detects any current flowing to ground, it trips the breaker. Note the two rectangular buttons in the center; "Test" checks the operation by tripping the breaker, and "Reset" restores power. Usually, each GFI outlet connects to two or three others that don't have distinctive buttons but are also protected. It may be worthwhile to press each test button to see what other outlets are affected. Not all GFI-protected circuits have distinctive outlets. Figure 6 shows a portion of a residential breaker box.



Figure 6. Breaker Box Equipped with GFI Breakers.

Note the green squares labeled "Test" on five of them. These are GFI breakers, but all their outlets are normal, with no test or reset buttons. This is probably because the outlets are near the floor and can be obscured by furniture, making them difficult to access.

It would be worthwhile to become familiar with your home electrical power system while it's working.

- Check which lights and outlets each breaker controls and update the sheet on the breaker box cover if needed.
- If you have an older home, use a tester like the one shown in Figure 4 to be sure the outlets are wired correctly. Use the test button on your GFI outlets to find which are on each circuit.
- If you don't have GFI sockets, consider hiring a licensed electrical contractor to install them, at least in your bathrooms and kitchen.

The most frequent power problem is storm damage, usually repaired within a few hours. Gasoline-powered emergency generators are a common solution here but don't use them near your house because of the carbon monoxide they also generate. It's not uncommon for GFI breakers to trip, which is an excellent reason to become familiar with the circuits they control. I've had standard breakers fail, especially when they are old; in such cases, call an electrician. 🛠️

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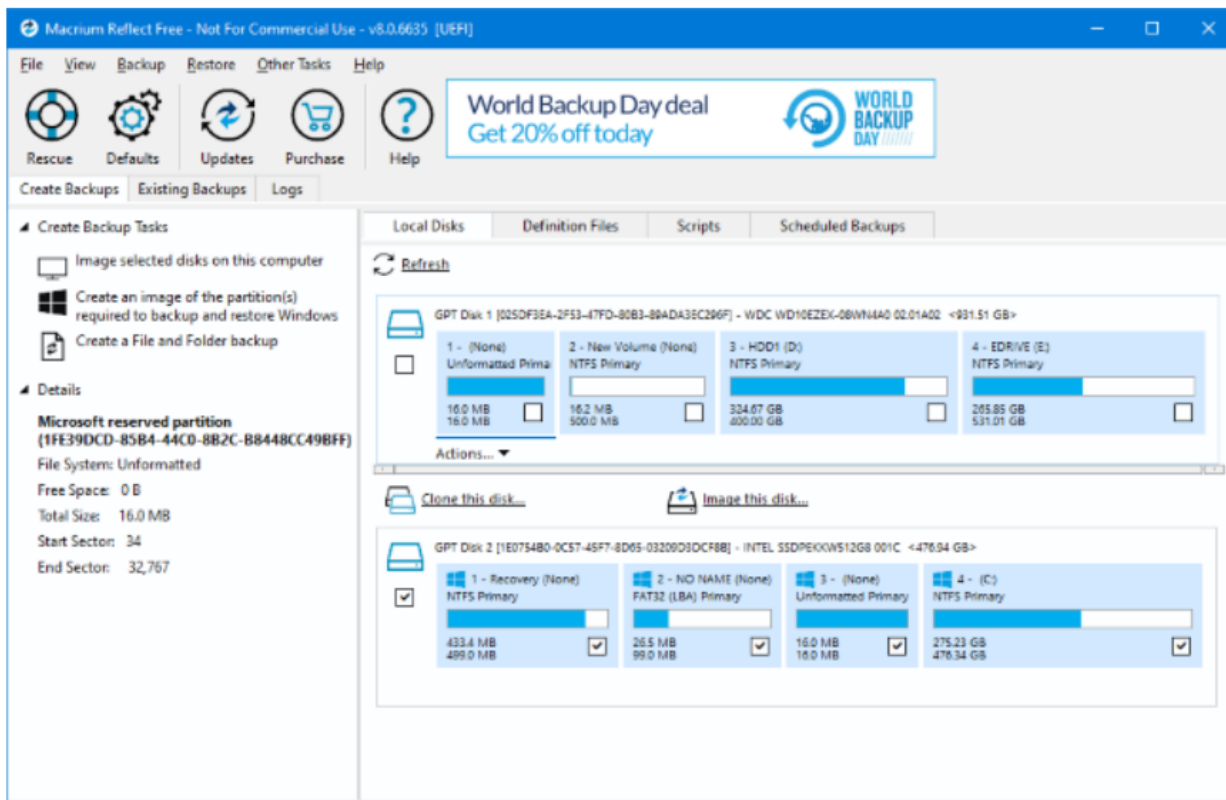
Saved by Macrium Reflect

How I recovered from a Driver Disaster

By Tom Burt, Vice President
Sun City Summerlin Computer Club
<https://www.scscclb.com>
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Introduction

For several years, I have used the free Macrium Reflect backup software program (<https://www.macrium.com/reflectfree>) to back up my PC's hard drives. My PC has a 500 GB solid-state drive (C:) and a 1 TB hard drive (E:). C: is for the Windows operating system, user profile folders, installed applications, temp storage, and a few other file types that benefit from the high performance of the SSD. E: is for storing all the data files that various programs use and for cross-network backup of various shared folders on my wife's PC. Here's a shot of Macrium Reflect's main screen:



My routine has been to make a monthly image backup of my C: and E: drives to an external 2 TB hard drive. I keep three iterations of these backups. I have also been using Windows File History to back up folders on both C: and E: with files that change frequently, such as my Outlook mail folders, Computer Club files, and Financials. The File History backups go to a 64GB flash drive plugged into the back of my PC.

As part of the Macrium Reflect image backup process, I have Macrium validate the backup, ensuring the image is readable and not corrupt. Until recently, I never had the occasion to attempt to restore a backup image.

AMD Radeon Video Driver Update – A Fatal Improvement

In early March, about ten days after my most recent backup, Windows Update was offering me an updated driver for the AMD Radeon graphics processor bundled with my PC's AMD Ryzen 2400G CPU. I deferred installing it for a few days and then decided to check the AMD support website to see if they had a newer driver. They did, so I downloaded that driver and ran the setup. Everything seemed to go fine; at the end of the setup, I rebooted Windows 10, and the system looked normal.

As I was resuming work, I decided to try opening a .mp4 video file since I'd had trouble in the past with driver updates causing video playback to fail. When I double-clicked the .mp4 file in File Explorer, nothing happened! No program launched, and no error message was displayed. I tried several other .mp4 files and then some .jpg and .png files with the same result. Not good!

System Restore Failed

So, I considered it a bit and decided to do a System Restore, reverting to the system state before installing the driver. The driver setup had created a restore point, so I expected to be back to the initial state of the system in relatively short order. The System Restore kicked off but ran very slowly. After about 45 minutes, it switched to displaying a "Restarting System" message with a spinning cursor. That stayed on the screen for half an hour, with no sign of any system activity. Really Not good! I pressed and held the power button to reboot the PC. It started to boot but then hung with a spinning cursor. Really, really not good!

Restore From the Last Macrium Reflect Image

I decided to try restoring my C: drive from the most recent Macrium Reflect backup image, which was only about 10 days old. I first went to my wife's PC and used her Macrium Reflect to create a bootable Macrium Repair DVD, just to ensure I had the latest version of the Repair tool.

On my PC, I rebooted and pressed F12 Boot menu to allow me to boot from the DVD. Macrium's Repair Disk boots into a minimal version of Windows (Win RE) and then launches the Repair Tool. I pointed it at the most recent image of my C: drive on my external 2 TB hard drive and then selected my PC's C: drive for the target. Finally, I clicked on the Restore button. The Repair tool went to work restoring all of the C: drive's partitions, including the UEFI partition. The entire restore ran for about 45 minutes. When it was finished, I clicked to exit the Repair Tool, and my PC restarted. When the restart was finished, my Windows 10 PC was fully functional, and my data files on the C: drive were reverted to the date of the image backup – i.e., about 10 days old.

Recovering Changes After the Last Image Backup

Happily, because almost all my application data is kept on my E: drive, it was unaffected by restoring my C: drive. The MS Outlook data files for my various email accounts and archives, my tax data files, and a few other files in the Documents folder were all that were out of date.

I had hoped to restore those from my File History backup USB flash drive. But, to my dismay, unnoticed by me that the backup drive had failed and become unreadable.

I used File Explorer to check dates on the files in my profile folder and satisfied myself that the restored Macrium Reflect image had brought back the most recent copies of everything but the various Outlook data files. Fortunately, my email providers (Cox.net and Gmail.com) retain copies of emails on their servers for 30 days. So, I launched MS Outlook, and it downloaded everything new since my last image backup. In all, I had about 500 emails that I had to review and reprocess (file or delete). After about an hour, I had everything back close to what it had been before the installation of the buggy driver.

I ran Windows Update, and it installed any updates subsequent to the date of the image backup. I had to reinstall some updates to the H&R Block software and a software update to my video editing program. By the end of the day, everything was back in good order.

Conclusions and Takeaways

The old saw “If it ain’t broke, don’t fix it!” seems still to be good advice. However, the flip side is we’re now at constant risk of attacks from malware, and we’re endlessly told by security pundits to keep our system software up to date. So generally, one must trust the software vendors and install updates when offered.

This experience demonstrates why it’s so important to make regular image backups of your running system, as well as your data. Had I not had a recent Macrium Reflect backup, it would have taken me several days to rebuild my system, and I would have lost much more data.

I was fortunate that the failure of my File History backup drive in my hour of need didn’t matter. But things could have been much worse.

I was also fortunate in my choice of system configuration to have separated my main data drive from my operating system drive. That greatly lessened the impact of restoring my system drive from a backup image.

As a result of this experience, I’ve made a few adjustments to my backup routine. I now make an image of the C: drive weekly so that it will be less out of date if I have to do a restore. I’m continuing to back up my E: drive monthly. I also decided to take advantage of the 1 TB of cloud storage that comes with my Microsoft 365 subscription. I wrote a short command script to copy all my Outlook and tax files to the OneDrive sync folder, from which they get backed up to my OneDrive cloud storage. Currently, I run that command file daily. I will likely add other file folders from my E: drive to that set. I also plan to buy a few new reliable flash drives and go back to using Windows File History. 🖥️

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Special Interest Groups (SIGs)

w Work phone h Home phone c Cell phone
* Meets at an alternate location

Most SIGs will meet at Edina Executive Plaza, Conference Room #102, 5200 Willson Road, Edina, MN

Confirm with a SIG group if they meet elsewhere.
For more info contact the SIG Leader(s) listed here.

Get SIG announcements!
Link from www.tcpc.com

Board of Directors*

All members are welcome! Check www.tcpc.com for location.

Selected Saturday mornings

Linux on Saturday

This is for the Linux newbie and those trying to come over from Microsoft to a different operating system.

Second Saturday @ 9 AM-Noon

Note: No Meetings June-August

Jack Ungerleider 612/418-3494 c
jack@jacku.com

Tech Topics

Technical presentation/discussion on various technical topics from the following areas:

- Web/Internet
- Mobile Devices and Apps
- Playing with Programming
- DIY (3D Printing, R-Pi, other hobby electronics, etc.)

Second Tuesday @ 6:00-7:00 PM

Every month

Right before the general meeting.

Jack Ungerleider 612/418-3494 c
jack@jacku.com

Microsoft Access

All levels. Presentations by expert developers within the group and by MS reps.

Third Saturday 9:00 AM—Noon

Note: No Meetings June-August

Steve Kuhlmeier 952/934-8492
skuhlmeier@hotmail.com

Microsoft Office

Addresses the use, integration, and nuances of the Microsoft Office applications.

Combined with Systems on Saturday

Third Saturday of the Month

9:00 AM—Noon

Note: No Meetings June-August

Steve Kuhlmeier 952/934-8492
skuhlmeier@hotmail.com

Directions to Accord, 1515 Energy Park Drive for General Meetings:
From I-94 in St. Paul, take the Snelling Avenue exit, then go north on Snelling Avenue about one mile to Energy Park Drive. Take Energy Park Drive and take the first left into the driveway to 1515 Energy Park Drive.
From I-694 or Hwy 36 in St. Paul, take the Snelling Avenue exit, then go south on Snelling Avenue past Como Avenue to Energy Park Drive. Take Energy Park Drive and take the first left into the driveway to 1515 Energy Park Drive.

Directions to Edina Executive Plaza for Systems on Saturday, Access, Word and Picture Perfect SIGs: Take Highway 100 to the 50th Street/Vernon exit. [If you have come from the north, cross back over Highway 100 to the east side.] Take the first right and go past Perkins [The golf course will be on your left.] and continue on the east frontage road (Willson Road) to the next building—5200 . There is ample parking in the building's lot. Conference Room #102 is on 1st floor.

Help yourself by helping others!

Join the team & share your knowledge with others.

Contact TC/PC at www.tcpc.com

Meetings start at 7:00 PM (9:00 AM on Saturday) unless otherwise noted. *Virtual Meetings during Covid pandemic.

May

June

SUN	MON	TUES	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9 7pm General Mtg The Night Sky & Northern Lights 6pm Tech Topics	10	11	12	13 Linux on Sat- urday SIG 9am—Noon
14	15	16	17	18	19	20 MS Office SIG (includes Access) 9am—Noon
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10 Linux on Sat- urday SIG 9am—Noon
11	12	13 7pm General Mtg Annual Meeting & Election 6pm Tech Topics	14	15	16	17 MS Office SIG (includes Access) 9am—Noon
18	19	20	21	22	23	24
25	26	27	28	29	30	

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You have just read an issue of The Digital Viking.

Would you like to receive this delivered directly to your email or business each month?

As a member of TC/PC, the Twin Cities Personal Computer Group, one of the benefits is reading this monthly publication at www.tcpc.com.

As a member of TC/PC, you may attend any or all of the monthly Special Interest Group (SIG) meetings and be eligible for software drawings. The small membership fee also includes access to real-live people with answers via our helplines, discounts, and various other perks.

Does membership in this group sound like a good way to increase your computer knowledge?

It's easy to do! Simply fill in the form below and mail it to the address shown.
(If you use the form in this issue, you will receive an extra month for joining now.)



<p>Here's the info for my TC/PC Membership:</p>	<p>5/23</p>
<p>Full name _____</p>	<p>I'm signing up for:4 <input type="radio"/> Individual/Family Membership (\$18) <input type="radio"/> Business Membership (\$100) If an existing member your # _____</p>
<p>Company name _____</p>	<p>Make checks payable to: Twin Cities PC User Group 341 County Rd C2 W Roseville, MN 55113</p>
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<p>City _____ State _____ Zip _____</p>	<p><input type="radio"/> Check # _____ <input type="radio"/> Bill me <input type="radio"/> New member <input type="radio"/> Renewal <input type="radio"/> Prior member</p>
<p><input type="radio"/> Home <input type="radio"/> Business <input type="radio"/> Change address: <input type="radio"/> Perm. <input type="radio"/> Temp. 'til _____</p>	<p>I'm interested in: <input type="radio"/> Training classes <input type="radio"/> Volunteering <input type="radio"/> Special Interest Groups: New User, Access, etc.</p>
<p>Home phone _____ Work phone _____</p>	<p>List here:</p>
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<p><input type="radio"/> I DO NOT want any of my information disclosed. <input type="radio"/> I DO NOT want to receive any mailings</p>	
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May 9, 2023
7:00 pm
General Meeting

**How to View and Photograph
The Night Sky and Northern Lights**

Via Zoom Only



341 County Rd C2 W
Roseville, MN 55113

FIRST CLASS MAIL