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

## November 2019

# General Meeting
## Tuesday, Nov. 12, 2019
## 7:00 PM

# Voice Recognition

**Summit Place
8505 Flying Cloud Drive
Eden Prairie, MN**

Voice Recognition technology has had a fairly long and somewhat checkered history. Converting the human voice into text on the computer turned out to be more challenging than expected for major developers like IBM with its Via Voice program and others. Dragon has had the best success  with its Naturally Speaking program. But voice recognition is available in most programs today. Sharon Walbran will discuss where and why to use it and attempt to demonstrate how to use it including: equipment needed, getting up and running, navigating, creating documents, editing documents, and using commands. Bring your own stories of experiences with voice recognition to the meeting to share with other members.🖥

**Tech Topics with Jack Ungerleider at 6:00 PM.**
Always interesting stuff to learn.

# The Digital Viking

## Advertising

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|---|---|
| **Full page (7½ x 9½)** | **$100.00** |
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*Multiple insertion discounts available.*

Contact Sharon Walbran at:: SQWalbran@yahoo.com

Deadline for ad placement is the 1st of the month prior to publication. All rates are per issue and for digital or camera-ready ads. Typesetting and other services are extra and must be requested in advance of submission deadlines.

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

## TC/PC 2018-2019 Board of Directors

Meets once or twice per year. All members welcome to attend.
Visit www.tcpc.com for meeting details.

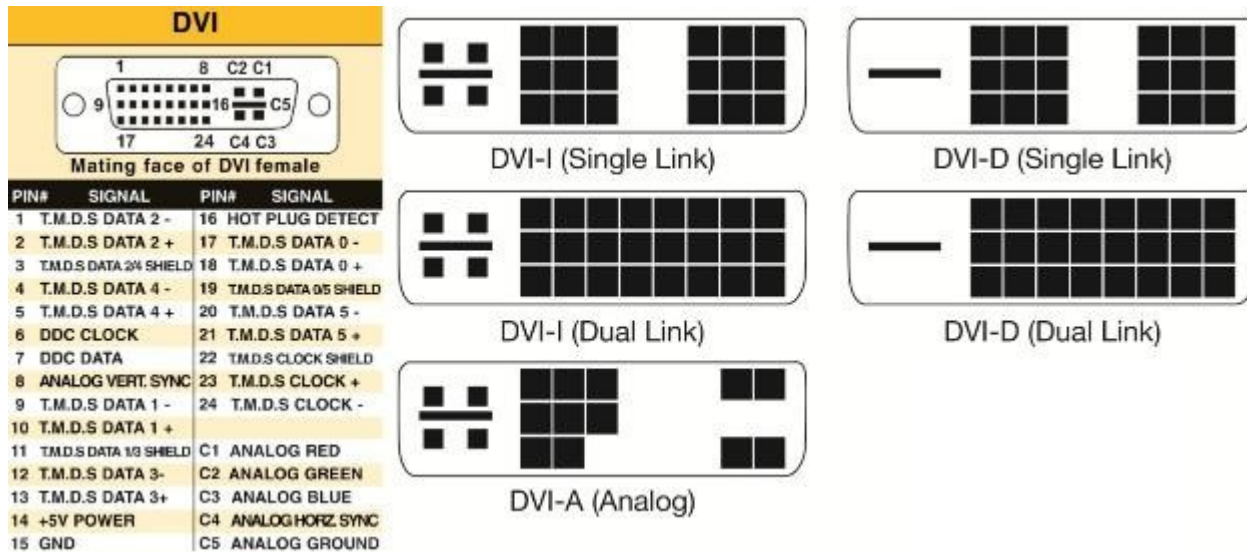| | | |
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**Editor Sharon Walbran**

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# A DVI story

**Author: Jim Sanders, Director, North Orange County Computer Club, CA**
**September 2019 issue, Orange Bytes**
**www.noccc.org, jsanders (at) ligasmicro.com**



| | DVI | | |
|---|---|---|---|
| | 1    8  C2 C1 | | |
| | 9 ▢▢▢▢ 16 ▢ C5 | | |
| | 17    24  C4 C3 | | |
| | Mating face of DVI female | | |

| PIN# | SIGNAL | PIN# | SIGNAL |
|---|---|---|---|
| 1 | T.M.D.S DATA 2 - | 16 | HOT PLUG DETECT |
| 2 | T.M.D.S DATA 2 + | 17 | T.M.D.S DATA 0 - |
| 3 | T.M.D.S DATA 2/4 SHIELD | 18 | T.M.D.S DATA 0 + |
| 4 | T.M.D.S DATA 4 - | 19 | T.M.D.S DATA 0/5 SHIELD |
| 5 | T.M.D.S DATA 4 + | 20 | T.M.D.S DATA 5 - |
| 6 | DDC CLOCK | 21 | T.M.D.S DATA 5 + |
| 7 | DDC DATA | 22 | T.M.D.S CLOCK SHIELD |
| 8 | ANALOG VERT. SYNC | 23 | T.M.D.S CLOCK + |
| 9 | T.M.D.S DATA 1 - | 24 | T.M.D.S CLOCK - |
| 10 | T.M.D.S DATA 1 + | | |
| 11 | T.M.D.S DATA 1/3 SHIELD | C1 | ANALOG RED |
| 12 | T.M.D.S DATA 3- | C2 | ANALOG GREEN |
| 13 | T.M.D.S DATA 3+ | C3 | ANALOG BLUE |
| 14 | +5V POWER | C4 | ANALOG HORZ. SYNC |
| 15 | GND | C5 | ANALOG GROUND |

DVI-I (Single Link)

DVI-D (Single Link)

DVI-I (Dual Link)

DVI-D (Dual Link)

DVI-A (Analog)

Sometimes learning experiences occur for simple reasons. This particular learning experience happened because of the way I organized my test bench. This experience revolves around the video interfaces on the computers that most of us use. You know, the connection to the monitor that puts the pretty picture on the display. In particular, the VGA port, the DVI-I port and the connectors they use. Just to refresh your memory on what those acronyms stand for:

**VGA** stands for "**Video Graphics Array**." The VGA standard was originally developed by IBM in 1987 and allowed for a display resolution of 640x480 pixels. Today, it typically supports up to **1080p**. The quality of the signal begins to drop off above 1920x1080 (**1080p**) which **will** cause a drop in image quality due to the analogue nature of the signal. With a good enough cable (shorter is better) and transceiver on either end it **can** be used for resolutions up to and including 2048x1536, your mileage may vary.

**DVI** stands for (**D**)igital (**V**)ideo (**I**)nterface. It is a video display interface developed by the Digital Display Working Group (DDWG). The digital interface is used to connect a video source, such as a video display controller, to a display device, such as a computer monitor. It was developed with the intention of creating an industry standard for the transfer of digital video content. This interface is designed to transmit uncompressed digital video and can be configured to support multiple modes such as DVI-A (analog only), DVI-D (digital only) or DVI-I (digital and analog). The single link DVI-D can produce a near perfect 1920x1200 (WUXGA) image @ 60Hz on displays and the dual link a near perfect 2560x1600 (WQXGA) image @ 60Hz on displays.

In order to reduce the clutter around the test area, I bought a very flexible, small diameter, VGA cable to hook the 1920 x 1080 monitor to whatever computer I was working on at the time. Depending on age and other factors, most end-user computers have either VGA only ports, or DVI-I only, or both. For computers that only have one of the three Analog capable DVI connectors, I have acquired the three different DVI to VGA adaptors. Newer computers may have HDMI and/or Display Port ports as well.

One of the learning experiences here was that I didn't need three DVI to VGA adaptors, just one, the DVI-A pin out adaptor. The female, Analog capable, DVI connector that is on any one computer, can be one of the three shown in the diagram. As you can see in the above chart, the DVI-A will mate with the other two pin outs. The other two pin outs have limits.

A second learning experience had to do with my long-term assumption (remember the definition of assume!) that contained within the DVI to VGA adaptor was a clever little integrated circuit that did the conversion. WRONG! Heretofore, I had not bothered to look up WHY there are different pin outs on DVI connectors. I just acquired the right cable or adaptor that worked with a given system. If it mechanically mated and electronically worked, life was good. When I was forced to research my problem, it only took a few minutes on Google to learn the facts of DVI life. Whereupon, I really felt the weight of one definition of assume! If that is confusing go here: https://www.urbandictionary.com/define.php?term=Assume

A DVI to VGA adaptor doesn't contain a clever little IC that converts the digital signal to an analog signal. That clever little IC (that contains DACs, **D**igital to **A**nalog **C**onverter) is on the Mother Board or Video Card and makes the analog signals available on pins of the DVI connector. The only adapting the DVI to VGA adaptor does is to run wires from the correct pins on the DVI connector that contain the analog video signals, to the appropriate pins on the VGA connector.

What precipitated this learning experience? I was upgrading a clients computer to a new RX 570 video card which has Display Port, HDMI and DVI-D connectors. My test monitor only has VGA and DVI-I dual link connectors. If you look at the chart, it is obvious that none of my DVI to VGA adaptors can plug into a DVI-D female connector. Not to mention, there are no analog signals in a DVI-D connector anyway! It turned out that I had 4 DVI cables of differing lengths in stock, but all of them were DVI-I dual link cables. It being late and wanting to finish the job, I figured what the hey, I will modify one cable by breaking off the four pins surrounding the blade that keep it from mating. I did that and it still would not seat in the DVI-D connector. Looking closely, I could see that the blade in a DVI-I male connector is wider than the female slot in the DVI-D connector on the RX 570 video card. A little grinding with the Dremel tool and it slid right in and worked.

A few tidbits: The digital video signals in a HDMI connector are the same as DVI-D which makes it easy to make an adaptor cable you can buy for under $10. HDMI connectors come in three sizes, standard, mini, and micro. A HDMI 2 in 1 T Adapter Connector Female

To Mini HDMI Male And Micro HDMI Male Adapter is handy for connecting phones and tablets to a standard HDMI cable. There is a long list of powered adaptors that allow you to connect devices with different connector types and electronic signals to each other. Most are under $50.00. In part because there is a royalty fee on HDMI connectors, for several electrical, mechanical, and economic reasons, Display Port is becoming the preferred video port. In the future, maybe, hopefully, Display Port will be the one and only to deal with.🖥

## Big changes coming to media, entertainment, newspapers
**Authors: Michael Shalkey, Computer Tutor and Troubleshooter and John Weigle, Editor, Channel Islands PCUG, CA, September 2019 issue, The TOE**
**www.cipcug.org, jweigle (at) vcnet.com**

Things are changing quickly in the world of media, entertainment, and newspapers, Michael Shalkey said at our last meeting.

Lawyers, big corporations, money and the Internet are behind the changes, he said.
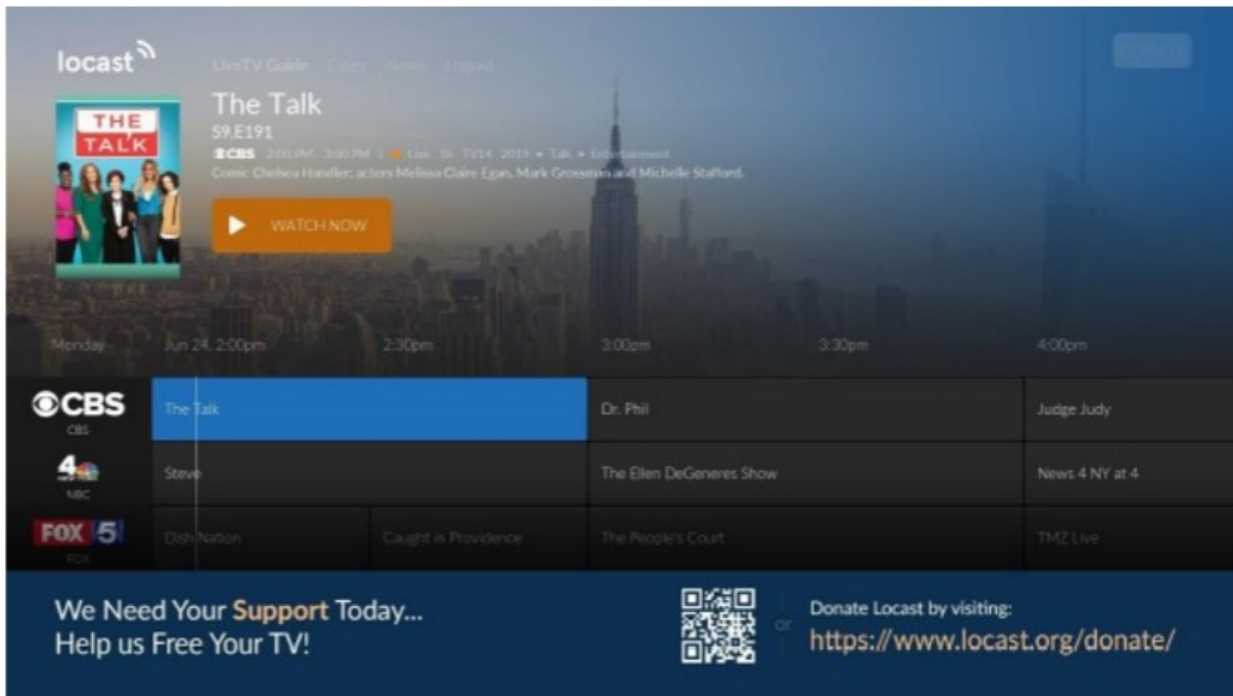
TV networks used to broadcast over the air using signals of a certain frequency. The broadcasters had to pay a fee for the frequencies, and they charged businesses for advertisements. Anyone could put up an antenna and get the broadcasts as free TV.

When cell phones came in, fewer people were getting over-the-air signals. The government took some of the frequencies back and is selling them to cell phone carriers. On June 12, 2009, they went from analog to digital, a different type of wave form.

You may not have noticed then because most of us are getting our TV from cable or satellite providers. Those providers pay TV channels to be included in their package. You have seen disputes for years about these fees.

Recently CBS and Direct TV fought over the amount that CBS would be paid to be on the Direct TV service. For a few weeks you couldn't watch CBS, but they resolved it (for now) and you can now watch CBS like normal, but I think the death of TV as we know it is coming soon. CBS did this because, although it came out with CBS All Access in 2014 it is now ready to really push it with exclusive streaming-only content.

That time when you couldn't watch CBS was the genesis for this presentation. Here is how to watch CBS on your TV using an app for your streaming box.

All of us hate the amount of money we spend each month for TV. Many have added boxes to watch content from the internet. Some have already become cord-cutters and get their TV only that way.

Definition first. Sometimes the word streaming means following the TV schedule, just over the internet, sometimes it is used for on demand, which means I want to watch something, and I want it now.

Live TV is now viewable using the LoCast app. It is very, very interesting. It's a non-profit that can legally pick up signals for free. It can put its own ads over the other ads. Because it's a local service, the programs available differ from area to area.

Some of you may remember a similar service a few years ago called Aereo that had antennas in New York that received over-the-air signals and allowed subscribers to view those signals. Lawsuits went all the way to the Supreme Court, which ruled against them partly because they were reselling the content without permission of the copyright owners. The hope for LoCast is that as a nonprofit, it is not selling anything. There will be lawsuits, but one of the supporters of LoCast is ATT, which has donated generously to LoCast.

You can get LoCast with most of the boxes like Roku, FireTV and similar boxes — and even a smart TV. The on-demand services like Netflix, Hulu, Amazon Prime Video, and HBO Go are also available on those boxes but they charge a monthly fee. These are becoming so popular that if you have never tried them, you probably will soon.

If you want to start a conversation waiting in line at a store or bank, say, "I just got Netflix. What should I watch? You can shut up for 10 minutes."

Toby Scott said to expect a fight over something that's recommended.

Many shows are exclusive, meaning they're available only on one of the services.



One of the people in the audience wants to watch TV at a louder volume than others in the room. He wants to have earphones. He can pair a device with his Bluetooth headphones to the Amazon Fire Cube through settings or through the newer Roku boxes that have a headphone jack in the remote control. (See photo above)

Shalkey was showing two devices: Amazon Fire Cube and Roku version 3. The headphone jack in the Roku remote shuts the volume off on the TV and puts it in the headphones or earbuds you have plugged in.

The August 2018 TOE has the program on the Amazon Fire Cube including the voice activation and channel changing.



One Fire TV Cube feature — as you can see — is the slideshow feature (above). As you know, I like wine. My wife and I went to a wine event in Paso Robles. We can take as many pictures as we want on our phones and upload them to Amazon Photo. It's free. I then put those photos in their own folder. Now I can set the FireTV Cube to show the pictures in that folder and talk about them when friends come over.

For streaming services, the big three are Hulu, Netflix and Roku. The up-and-comers are HBO-Go, YouTubeTV, CBS All Access, and the new Disney Plus (launching in November).

With Netflix, Hulu and Amazon you can have profiles so you will be offered films that match your previous choices, he said. Some of the shows on these channels could not be sold to the big networks, he added.

A lot of the old favorite shows are being pulled back by the networks that broadcast them originally.

Q. Do you see the future as cord cutting?

Michael Shalkey: Yes. I think in the future no one will have home phones, newspapers and cable TV. The satellite and cable people are doing this to themselves. For people who are cutting the cord because of the cost it's going to be hard to decide what they want to keep and to be sure that cutting the other things are not more expensive than the bundle.

Q: If you get rid of the phone and TV what are you going to pay for internet?

Michael Shalkey: It depends on where you are and what you need. Depending on where you live, you might not save much by cutting everything. When you are calculating, please do the math right. If you are already an Amazon Prime member, there is no cost for Amazon Prime Video. If you currently have Internet in your house (and who doesn't)? you can't really count that as an added cost in the cord-cutting scenario unless you are seriously thinking about getting rid of the internet at home.

Q: I have a home with two TVs for two families and Wi-Fi for cell phones. What speed do I need to run effectively?

Michael Shalkey: It depends. I would not think of moving into a new home now and having less than 15 megabits per second. It really depends on your users. Music is already streaming. How many of you have bought a music CD in the last year? How many of you have an AM radio (few said yes). Big producers have changed the music world. The TV world is not far behind and many changes have been made in music.

Q: I was watching a Prime movie, and there were commercials, which I haven't noticed before.

Michael Shalkey: It's their platform. I haven't seen them, but they can advertise their own shows particularly before the movie (kind of like a movie trailer in a theater).

Q: Can we have more than one of such devices and listen to different things in different rooms?

Michael Shalkey: Yes. I can watch a movie on Netflix in the bedroom while my wife watches something else in the living room on her box. I don't think smart TVs are that smart. The manufacturers don't update the apps.

Q: How many options do you have and what do you pay for them?

Michael Shalkey: You pay for the Roku box but you don't pay to use it. I pay for Netflix, and I pay for Hulu and I'm a prime member of Amazon, but I don't count it as a monthly expense because I buy so much. I'd be saving a lot of money if I could get my wife to drop Direct TV, but she does like her Hallmark Channel.

Q: What about live sports and news reports?

Michael Shalkey: It depends on what you want and what the channel you want is doing. LoCast is live TV, but that is only the traditional over-the-air networks. It does not include ESPN, CNN or MSNBC.

Q: Do you find much overlap in the channels you get?

Michael Shalkey: Yes and no. Yes, different boxes get the same "channels" like Netflix, but I don't pay more per month for each device, so that's no problem. I don't see much overlap.

Comment: The Amazon Echo can also play radio stations, and if you have more than one they can be used as an intercom.

Michael Shalkey: You can also use them to make phone calls.🖥

# Cell Phone Collusion
**Author: Jim Sanders, SIG Leader, North Orange County Computer Club, CA**
**September 2019 issue, Orange Bytes**
**www.noccc.org, jsanders (at) ligasmicro.com**

For several years, I have noticed a few ads for cell phones that said they included an FM radio. By that I mean the actual electronic hardware that allows the cell phone to be used as a transistor radio and tune in to the local, over the air, FM radio broadcasts. I regretted that it was never the phone that I had, nor one with the FM radio tuner feature, whose other features fell short of acceptable. For a long time I have thought that having the FM radio feature in my cell phone would be very nice. I could tune into my favorite music station without having to install some streaming Application. I would not have to worry about streaming music using up my online data allocation. With it, if I lost a cell phone tower connection, it wouldn't matter. And potentially, in any kind of an emergency, I might be able to receive an FM radio broadcast when there was no cell service available.

Having received an email that suggested I read an article in their electronic magazine, I opened it. After reading the article, I noticed in the "You might also be interested in" section of the page, an article titled:" Samsung enabled FM radio on US unlocked Galaxy S9 and S9+ with ..." The opposite of unlocked of course, is locked.

A long story as to why, but I recently signed up with AT&T for a special deal they were offering. To wit, buy one Galaxy S9 and get one free if you sign up with us for two years. As a rule, when you sign up with a carrier for that kind of contract your phone is "locked" to their service. To me, that implied that I have a Galaxy S9 phone that has an FM tuner that I can use. That thought made me happy, but at the same time, a little confused. The last time that I had looked at the specifications for a Galaxy S9 phone, FM radio tuner was NOT on the list. So I went to AT&T online support to ask about it.  I searched for AT&T online help and got this URL: https://www.att.com/devicehowto/index.html#!/?make=Samsung&model=SamsungG965U. The page  title is: AT&T  Wireless Support, Devices, Samsung, Samsung Galaxy S9 / S9+.

When I got there, a line said: "How can we help you today?" I typed in "FM Radio."
The response was:
"We searched for 'FM Radio' in Device Support and didn't find anything."
Per the instructions, I shortened it to just 'Radio', but got the same response. I tried multiple variations of the search, but the circle always came back to; we don't admit to knowing anything about FM radio.

**I then clicked on the online chat function and got Steve.**
Steve: Hello! How may I help you today?
Steve: Hi! My name is Steve. How can I help?
Steve: Jim nice to meet you Please let me know how can I help you today ?
Jim: I am tired of going in circles looking for how to use the hardware FM Radio in my S9
Steve: Sure I can help you with that, Allow me a moment please
Jim: I am looking at websites that say the S9 has the FM radio tuner hardware but not how to use it/activate it/turn it on......
Steve: Got it, first you need to have (wired) headphones or earbuds as they work like an antenna
Steve: I'm not sure about the steps
Steve: Allow me a moment please
Jim: I got the antenna part already. Even found one page that had a screen shot of the tuner
Steve: But that's not something you download it is supposed to be preinstalled in the phone
Steve: I'm having issues with the tools
Jim: pre-installed, after installed, I don't care. I just want to learn how to have it! when the auto (*online*) support asks what do I want help with and I type FM Radio or just Radio, it says it never heard of that and runs in circles, somebody needs to fix that piece of stupidity.
Steve: Gotcha
Steve: One moment please.
(while waiting, I went back and copied the article I had found)
Jim: 6/26/2018 If you're a person who loves FM radio and owns an unlocked variant of the Galaxy S9 and Galaxy S9+, you'll be happy to know the handsets are now enabling support for FM radio reception after their most recent updates. There was a bit of confusion earlier in the year when Samsung debuted its Galaxy S9 and Galaxy S9+. The firm advertised that FM reception was indeed a feature on both devices but failed to give details that it was only going to be available on carrier-branded units. This left those that purchased the unlocked model without the ability to tune in to the radio. While it probably wasn't a huge issue, it is good to see that Samsung has finally resolved the problem after three months.
Steve: Yes I double checked that on internet as well
Steve: I'm checking the manual but doesn't show me any info about it
Steve: Have you checked directly with Samsung Jim ?
Jim: NO I haven't. I didn't buy the phone from them, I bought it on a two-year contract with your employer.
Steve: Thanks for clarifying
Steve: Not really I'm even checking on Samsung's website and doesn't show me any info about it
Steve: Is the phone updated Jim?

Jim: It has been updated to Android 9.

Steve: Allow me to connect you with our Tech Support Team so they can better check this

Steve: Is that okay with you ?

Jim: sure, anything to get an answer

Steve: Thanks, please keep the chat window this might take few min

Jim: I will do that.

Steve has left the chat

You are being transferred, please hold...

Steve: We are currently experiencing very high chat volumes which may cause long delays. An agent will be with you as soon as possible.

==== quite a bit later ==============

Agent Regina enters chat

Regina: Hi! My name is Regina. I'm happy to help! Please give me a moment to review your request.

Regina: No worries. I can help you with that. Can I have your name and wireless number please?

Jim: Jim Sanders 714-xxx-xxxx

Regina: Thank you.

Regina: Jim, I understand that, the issue is with the FM radio in the Galaxy S9 device.

Regina: I can completely understand your concern.

Regina: As this is the issue with the device application, it should be resolved by the Samsung team.

Jim: I am not concerned. I just want instructions from att on how to use a feature of my S9 phone

Regina: I understand that.

Regina: I will help you with the instructions.

Jim: That's nice because As noted before, when one types in FM Radio or just Radio, the what can we help you with screen says, "say what?' and runs in circles. That all by itself blows.

Regina: Usually FM radio apps will be paid apps.

Jim: We are talking about FM tuner hardware that is already in the phone. The same as if you  turned on your transistor radio and started tuning to your favorite music station in your locality. DO you have to pay for that?

Regina: Generally, you will need to pay for the FM.

Regina: It will not be free in the galaxy phones.

Jim: I think you should transfer me to a supervisor as it is clear you are not sufficiently technically knowledgeable

Regina: Sure, Jim.

Regina has left the chat

===== another wait ================

I then spent over a half hour chatting with the "supervisor" and largely got the same runaround. At one point I said that if AT&T is going to advertise a cell phone that has an FM radio tuner, they should support how to use it. He wanted proof that AT&T had advertised a radio with that feature, and I found one for a radio made by ZTE. We

went around and around about whether or not it was AT&T's obligation to support the radios in the cell phones that they sell through agents like Best Buy. I pointed out they provide support/help with lots of other features of the phones they bundle with their service.  He continued to maintain that it was not AT&T's responsibility, and that I should go talk to Samsung using the 800 number that he supplied.

So I did that. I spent quite a bit of time on the phone with a very nice Samsung representative that tried quite hard to be helpful. He agreed that yes, the Galaxy S9 does indeed have an FM tuner built into it. That it appeared that Samsung has a program that interfaces with the FM tuner chip but does not install it on phones that are shipped to the United States. He said that the program/app looked like it had to be installed at the factory and he could find nothing about installing it later on.

Further research revealed that the FM radio receiver function is built into the QUALCOMM modem chip that a lot of cell phone manufacturers use. That function is free to the cell phone manufacturer whether they care to use it or not. No extra charge! I normally don't care much for conspiracy theories, but I ran across a few more web pages that had a cynical article that suggested that AT&T and other carriers don't want to mention the feature as it would diminish their revenue from streaming music data usage. When you go to the www.samsung.com site and look up the specifications for the Galaxy S9, there is a long, long list of features, but NO mention of FM radio. Is there collusion between Samsung and the American carriers to influence the results in the market? The American people have a right to know! The FM radio stations of America should demand the Congressional Oversight Committee add this to their list of investigations.

On the BRIGHT SIDE, my research found two things that surprised me. First, there is an APP on the Google Play Store that has been there quite a while called NextRadio. It does exactly what I need, and that AT&T refused to acknowledge exists . NextRadio has two modes of operation. The basic tuner screen (see photo) and a radio station logo screen. The tuner screen allows you to enter a frequency directly. The tap on a logo screen (with call sign and frequency) is determined by the ZIP code you enter. NextRadio used to do streaming but stopped as Jan. 2019. Second, there is a list of 222 phones that the APP works on. The list is at: https://nextradioapp.com/. On the DARK SIDE, (well, disappointing anyway) several non-geek friends of mine treated the knowledge that their phone has a FM Radio tuner with an "OK, so what, ho-hum, who cares, my streaming works great" attitude. Meanwhile, I am enjoying listening to my favorite FM music stations even if I have to use the wired earbuds instead of my blue tooth headset.🖳

# Special Interest Groups (SIGs)

**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 Kuhlmey          952/934-8492**
**skuhlmey@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 Kuhlmey          952/934-8492**
**skuhlmey@hotmail.com**

Directions to **Summit Place** for **General Meetings**:
Proceed to Eden Prairie Center Flying Cloud Drive . [Flying Cloud Drive runs along the West side of the Eden Prairie Center.]  Once you have driven past Eden Prairie Center (on the left) along Flying Cloud Drive you will come to a stop light at Prairie Center Drive.  The next intersection with a stop light and left turn lane is Fountain Place. Turn left at Fountain Place and go straight into the parking lot. Turn left again to the first covered entry way of Summit Place.  There is plenty of parking in the large parking lot in front of the first Summit Place covered entry way.  When you enter the door at the first covered entry way, ask to be directed to the Performance Room for the TC/PC meeting.  For a map of more detailed directions and *info on Web SIG and Board meeting*, check the TC/PC website.

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**

| Sun | Mon | Tues | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
| 27 | 28 | 29 | 30 | 31 | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 9am-Noon Linux on Saturday |
| 10 | 11 | 12 General Mtg Voice Recognition 6pm Tech Topics | 13 | 14 | 15 | 16 9am-Noon Microsoft Office (including Access) |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 General Mtg TBA 6pm Tech Topics | 11 | 12 | 13 | 14 9am-Noon Linux on Saturday |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 9am-Noon Microsoft Office (including Access) |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

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**November**

**December**

Meetings start at 7:00 PM (9:00 AM on Saturday) unless otherwise noted. *Meets at Edina Executive Plaza.

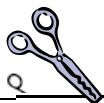# You have just read an issue of The Digital Viking.

*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.)

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**11/19**

**Here's the info for my TC/PC Membership:**

Full name_____

Company name_____

Address_____

City_____ State_____ Zip_____

❍Home ❍Business ❍Change address: ❍Perm. ❍Temp. 'til _____

Home phone_____ Work phone_____

Online address(es) _____

Where did you hear about TC/PC? _____

❍ I DO NOT want any of my information disclosed.
❍ I DO NOT want to receive any mailings

**I'm signing up for:**

❍ Individual/Family Membership ($18)
❍ Business Membership ($100)
If an existing member your # _____
**Make checks payable to:**
**Twin Cities PC User Group**
**341 County Rd C2 W**
**Roseville, MN 55113**

**http://www.tcpc.com**

❍ Check #_____ ❍ Bill me
❍ New member ❍ Renewal ❍ Prior member
I'm interested in:
❍ Training classes ❍ Volunteering
❍ Special Interest Groups: New User, Access,
etc.
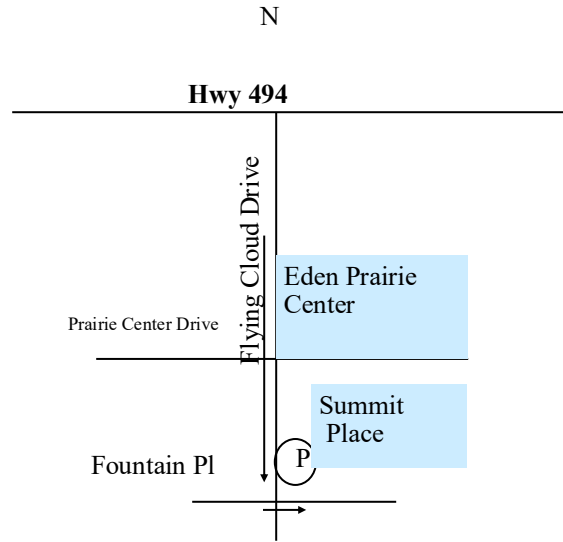List here:

**Administrative Use Only** Rec'd_____ Chk#_____

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**November 12, 2019**

# General Meeting

## Voice Recognition

## Summit Place
## 8505 Flying Cloud Dr
## Eden Prairie, MN

**More info and map: www.tcpc.com**

N

**Hwy 494**

Flying Cloud Drive

Prairie Center Drive

Eden Prairie Center

Summit Place

Fountain Pl

P

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