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Comparison of Odroid U2, Raspberry Pi and Raspberry Pi 2.

In my recent presentation I discussed the difference between Rasberry Pi and Odroid U2 computers with respect to running an AFSK program called FLDIGI natively in the Unix operating systems of both systems.

When I made the comparison there was only a single CPU version of the Raspberry Pi. And my comment about this computer with respect to decoding digital communications was that the single CPU was over-taxed by the computation required to decode digital communications as well as giving the operating system room to "breath". Essentially the CPU ran at 100%.

The Odriod U2 platform is a much different computing platform in that it is a quad-core ARM based processor with plenty of headroom to handle all the computing necessary to run both the operating system and the FLDIGI software! Not only this software but you can basically use this platform as a normal computer without a locally attached large storage system. If you don't need a lot of space for this purpose built computer then it's an excellent choice for a computing platform that can replace any other computing platform one typically may use for something like this (laptop, desktop, etc). Odroid uses a version of Ubuntu called Lubuntu.

Since my presentation the Raspberry people have come out with the Pi version 2 which is also a quad-core ARM processor that runs their version of Debian Linux.

As a follow-up to my presentation, this document is a comparison of all three and what I like and don't like about each.

If I had my druthers I would choose to use a higher power processor with more cores and faster multi-threading performance. Something like a full Intel i7 chip will out perform any of these embedded computers without much of a contest. They are also much more compatible with other software (like N1MM) which have been written to take advantage of Intel based features.

However, an i7 enabled platform is going to start in the $500 range, not the $20 range. So keep this in mind. These small computers consume very low power and put out very little heat. Not so for an i7 computer. Where an Odroid will consume 2 watts of power an i7 computer could be 20+ times this power.

The Odroid U2 and the Raspberry Pi 2 are essentially the same computing platform. The Odroid out performs the Raspberry Pi 2 by about 10-15% in my testing for the applications I am using. So if performance among these is your top priority then the Odriod is your choice.

The Raspberry Pi computers both have a very large following on the Internet. The RP2 is hands down a better performer over the RP1. The RP1 and RP2 are excellent platforms for goofing around with all the various projects you can do with them. Including what I demonstrated with FLDIGI and packet radio.

If Price is your goal then the Raspberry Pi 1 is definitely the way to go. It is a single core computer chip. The only downside to the RP1 and digital decoding is that the computer will run at 100% CPU when decoding a typical Olivia 8/500 message. When it's decoding I find the 100% CPU to be

distracting. You can't do anything else with the computer while it's decoding; at least not well. With the other computers you can surf the web, send an e-mail and essentially do normal desktop stuff while FLDIGI is doing it's work. All while the CPUs are staying busy but well less than 50% load.

You can find the RP1 on ebay for less than $20. I'm sure you wouldn't have to look hard to fine one for $5 with a case ready to go.

As for the RP2 or Odroid it's a coin toss for me. I like the Odroid because it's more like my favorite Linux build (Ubuntu) and is fast and crisp on the user interface. To me it works as close as a normal computer does in this tiny platform. It has all the USB ports I need, ethernet and other capabilities I was looking for in this platform. If you are going to play with Unix and know what you are doing I would choose with Odroid.

The RP2 is probably better if you plan on building projects with them. There is a larger community of people who use the platform so the opportunity for information and help seems to me to be more readily available. If you are going to tinker the RP2 is a good platform.

So I have both. Mainly to play and experiment with them to understand more what I can do with them.

This document was written using LibreOffice Writer on the Odroid while I worked PSK31 contacts all around the globe from my QTH.

I hope this helps you some. If I can update the document or anwer any questions please let me know.

Regards,

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