BridgeWire MAKERSPACE

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AUGUST 2020

HAPPY AUGUST!

President's Corner

Covid-19 has not knowingly infiltrated Bridgewire, yet?

So far we have had no known cases in any members at Bridgewire. There have been a few members that felt a spouse or work associate may have exposed them and self isolated. In fact, we had a guest that thought he may have been exposed from his work enviro``````nment. He was proactive and traced to everyone he made contact with during his visit. This one incident had half the officers isolating until he received his test results. Thankfully, negative. This is a prime example of how easy we could find ourselves needing to shutdown. So please social distance and keep your masks on.

Craig's Corner

There will be a couple of new things to do in the shop this month. You will find a blue plastic bin with herbs, etc. in it. On the bin is a book 'Curing with Cayenne' by Sam Biser. It is an interesting read and touts many formulas you can make that claim to cure some of our physical ills. Feel free to read the book, however please do not take it out of the shop. Also please disinfect your hands before reading it, and it would not hurt to wipe the book down afterwards too.

Top of the bin, along with the book you will find five containers. The four glass ones are the materials to make your own snuff, and the silver metal container is premade cayenne snuff that you are welcome to try. PLEASE, do not take any snuff while you are working in the shop, and instead put a small amount in a folded piece of paper to take outside with you when you leave. Ok to make here, not ok to take here. The reason is that this nasal snuff it's very strong stuff, and once you take it you will shortly be sneezing and find that you have some serious sinus drainage, and an extra handkerchief will be helpful. And with this virus pandemic, we do not want to be spreading droplets around the shop from sneezing!

Aaachoo. God bless you.

Why snuff?

Sneezing helps discharge mucus and organisms from your sinus and nose where they love to lurk and grow. Eww. And maybe helps clean your lungs a little bit? One theory is that if you sneeze often then you may be expelling viruses from your body, hopefully before they have a chance to multiply.
That said, here is the recipe for some great cayenne snuff. Seven parts goldenseal, seven parts bayberry bark, one half part garlic granules or powder, one half or one part cayenne pepper. These ingredients are already ground so there is no need to crunch them up to make your snuff. There is also some already made snuff in a silver container if you want to try some before making your own.

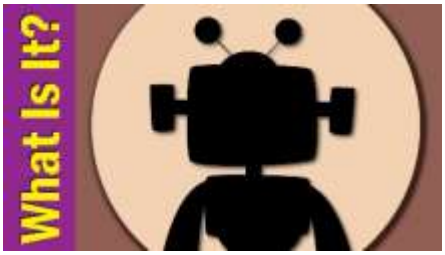
Absinthe

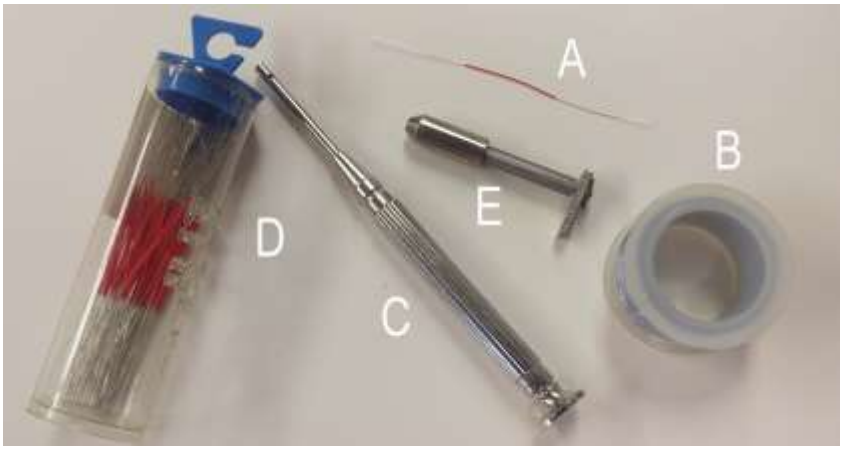
The second project here is material to make your own absinthe mix. We have had classes at Bridgewire before on doing this, but there is no need for a class when instructions on different types of absinthe can be found inside the blue bin along with the herbs necessary.
There is a digital scale on the East wall of the shop that you can use to measure the quantities needed. The three basic ingredients are wormwood, Anise, and fennel.
One nice recipe I found playing around, I call the Reno recipe and the formulation follows: 8 grams grand wormwood (Absinthia)-do not use the Roman wormwood, it is for finishing after distilling, and very hard to come by. 8 grams anise, 8 grams fennel. Optional-3g star anise, 2g Angelica, 1g hyssop, 2g calamus. If you grow your own legal cannabis you might want to throw a small bud in there too, but that is best left for the finishing process afterwards. Grind it all up with the little grinder in the bin. Please use short pulses in order to not burn up the motor, and there is no reason to run it longer than 30 seconds or so. Use your best judgment, if the motor starts getting hot give it a rest.
If you make a mix of the above formula you can add it to a 1.75 L of cheap vodka and keep it in the dark for a couple of weeks to let it soak. You can shake it up every day or two. Be warned that wormwood is one of the bitterest herbs ever, so be prepared for your taste buds to freak out. However the longer you let it set it appears the less bitter it becomes. Either that or I finally got used to the taste. There are many other absinthe formulas available online, be creative.
Also those of you who have taken the Solar Cooker classes know that you can make a solar distiller. This still by the way works very well on kicking up the alcohol content and it removes probably 95% of the bitterness. Out of every quart distilled you will get 6 to 8 ounces of good high proof product probably in the neighborhood of 145 to 165 proof. This is very flammable by the way so please always be aware of that. I add about 50% water with this and a spoon of sugar and I always seem to have a pretty good time afterwards. Absinthe is legal in the US, however it is not legal to distill ethanol, so at your own risk. Bridgewire cannot advocate doing illegal things.
Something fun to do with your time at home?

Please note that these herbs are already paid for and are for free use by our members. However it would be nice to get occasional donations to buy more herbs and also purchase some missing herbs that we need to complete the recipes in the cayenne book. If you are so inclined, please drop a buck or so in my locker, or put it into our donation box with a note that it is for herbs and materials. Tag it for the bridge wire solar fund and hopefully it will work its way back around.

While it is not good for us in these times to gather in large groups, many of us can use our 24/7 facilities when it is not busy to do our own projects and play around with some of these herbs. I love Bridgewire because it is a 24/7 local maker space facility. It is ours....
Thank you

What is it – Scavenger Hunt - Answers.





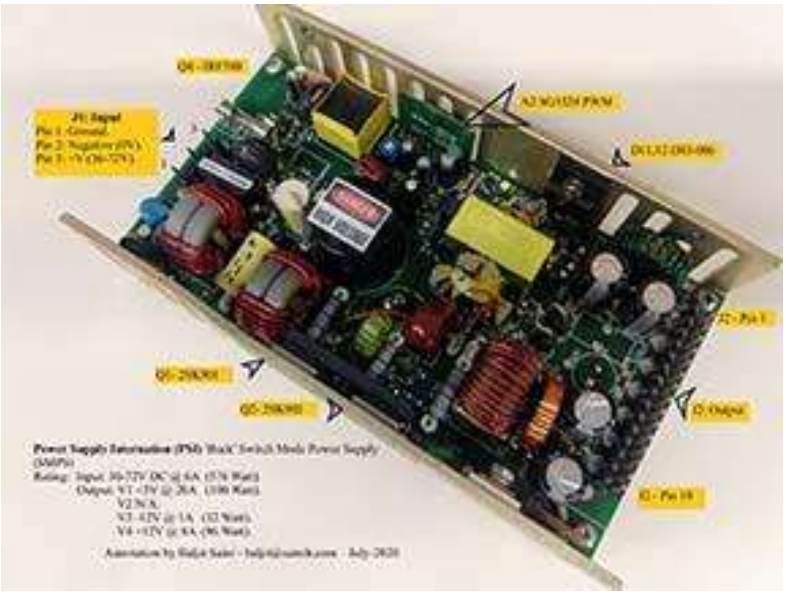
We asked, can you identify this grouping of Parts?

Seriously No one got the right answers. Two new members deserve a mention for having found the 'Tool Box' - They will be contacted in due course.

A. Wrapping Wire - Stripped – Both Ends. **B.** Spool of Wrapping Wire. **C**. Hand Wire Wrapping Tool.

D. Stripped Wire – Commercial Pack. **E.** Wire Stripping Tool.

I will be demonstrating the Art and Science of Wire wrapping on Tuesday August 11th at 6PM, this is a free class for members, and donations are always welcome. There will be a $5.00 fee for Non-Members. If you are interested please call or email me – baljit@sainib.com or text (775) 297-4909.



Power Supplies available

Every Good Project needs a power supply. Charge (pun intended) your next project with this beauty

A full explanation of this power supply is beyond the scope of this article. Additional information will be posted on our web based community page https://community.bridgewire.org/

Please be mindful and pay attention to the 'Danger High Voltage Sign'

Let's start with the J1-Input Connector.

J1 - Pin 1: Ground.

J1 - Pin 2: Negative (0V).

J1 - Pin 3: +V (36-72V).

That is not a mistake – the beauty of this device is that it starts with Direct Current (DC) Input, Solar panels and Lithium Polymer Battery Pack are ideal for this device. This device is classified as a 'Buck' or 'Step-Down' power supply.

J2 is the Output Connector.

J2 - Pin 1,2,3 & 4 is V1 +5V at 20A – That is 100 Watt.

J2 - Pin 5-10 is 0V or Output Ground.

J2 - Pin 11 is V2 Not Populated – Future Enhancement.

J2 - Pin 12 is the -12V - Any OP-AMP aficionados in the house!

J2 - Pin 13-15 is the +12V output rated at 8A – 96 Watt.

Every SMPS needs a Switch, this function is handled by Q4-IRF740 and the switch gets the switching instruction from a Pulse Width Module (PWM) a function handled by a Single In-Line (SIL) module A2 The Heart of this module is an Integrated Circuit SG3524.

Facilities Changes

Project Tables and Rental Tables/Spaces

Effective August 1st 2020, we are changing how we use Project Tables at Bridgewire. All FREE Project Tables are now 4 weeks maximum. Moving forward, new projects may be started on a (free) non-rental project table. However, if they are not completed before the time limit, the member may either take their project home or move their project to a rental space or table and pay by the month. Projects may not be moved to another vacant non-rental table. At the end of the rental duration limit, if your project is not finished you may be asked to remove it from Bridgewire. We are enacting this procedure because we have received numerous comments and complaints about squatters occupying tables or spaces well beyond the allotted time which made getting a project table difficult.

Shapeoko Mini Router Upgrade Recently we have put a bunch of work into the Shapeoko2 to update the firmware and improve the reliability and performance of the machine. Most importantly we have rebuilt the controller box. We used to have an overheat problem that caused the spindle to stop or the controller to malfunction. The box now has a cooling fan and the electronics are positioned in its path. The next important thing we did was upgrade the firmware from a GRBL 0.8c to GRBL 1.1f. This new version resolved a few bugs and has many additional features we hope to implement. The (UGS) universal G-code Sender software on the computer has also been upgraded to UGS Platform. This software now has a visualizer and controls to adjust the spindle and feed speeds real time. Lastly, the computer is now a Quad Core system. All these changes are evidenced by the 3D engraving shown below. This engraving file was generated from a 2D color picture utilizing a script in Fusion360 and then processed through VcarvePro to make the Gcode. The router time was 4hr 15mins.

Who dunnit?

Inspector Policy is our house detective. He is always on duty looking for rules violations which disrupt the peace and fair maker environment. He lives by the maker credo "Be Excellent to each other". Each month he will ask for your help to identify a rules violator.

This month's case:

"Murder at the Drill Press."

We are sorry to inform you that someone has killed Ironman. Please excuse the gruesome pictures, but we feel they will help catch the killer. Here is the photo evidence. You can see in PIC1 that he was drilled multiple time and his metal shaving guts are strewn all around the drill press table. PIC2 is the scene of the act, where he was held down in a vise. Gut shavings are all around the jaws of the vise.

"*The culprit is not a Bridgewire member"* claims Inspector Policy. His reasoning is sound; as he stated, *"No self respecting member would leave the scene of the crime in such a messy condition. Just look at the swarf, discarded drills, and other scattered tools. This is the work of someone that wants to get caught and suffer the*

consequences." As a reference the inspector has supplied a picture PIC3 of how good respectful Bridgewire members would leave the scene. Clean, degreased and wiped of fingerprints.

If you can provide any leads or know the culprit, please drop a note in the Who Dunnit / Scavenger Hunt box at the front desk.

Inspector Policy

ARTICLES ALWAYS NEEDED!

The Newsletter

Things are looking up for the Bridgewire Newsletter, we're getting more and more interest in submitting articles, making the BWNL more interesting and relevant than ever. Thanks to Eric, Craig, and Baljit for contributing to this month's issue. If you have an article in mind or just a particular subject that you would like to see in the newsletter please email your entries to Lance, at lance@ipc-solar.com .

EDUCATION HAPPENINGS

Embedded Systems Group: Every Tuesday of the month with lessons in soldering, basic circuitry and electronics projects. We are restarting this group. We plan to have a meeting every week during the summer. This would be the place to learn electronics and upgrade your knowledge. Projects will be presented every meeting. Tony will present using the ESP8266 Wi-Fi controller to drive a string of APA102 leds.

Bridgewire Classes and Workshops.

We offer a varying array of classes and workshops from month to month which can be viewed in our Calendar.

FINAL NOTES

Clean up for the cleaning crew?

We're back! And strict hygiene rules are in place. It's important that we pay attention to our workspace and be sure to consider the other members who come after us. Bridgewire's industrial cleaning service will again be doing a terrific job of keeping the shop tidy and dust free. We can all help them focus on the deep cleaning aspects of their job by keeping work areas organized and sanitized and cleaning up after ourselves. Let's not forget that Bridgewire is a co-operative facility that relies on member participation to maintain the

facilities while keeping an affordable fee structure. This service frees us to spend more time on infrastructure issues. There's plenty of need for repair and maintenance of the tools and equipment.

New Members

James Ong, Joe Riney, Carson Wahl, Pond, and returning member Drew Knight

BRIDGEWIRE CALENDAR

AUGUST 2020

Tue	Wed	Thu	Fri	Sat	
28 6 pm - 7 pm Embedded Microprocessor Group meeting	29	30 6 pm - 9 pm Open House Night	31	August 1	2
4 6 pm - 7 pm Embedded Microprocessor Group meeting	5 6 pm - 7 pm BW Officers Meeting 7:15 pm - 8:15 pm BW Board Meeting	6 6 pm - 9 pm Open House Night 7 pm - 9 pm Metal Shop and Welding	7	8 9 am - 11 am Open House Saturday 10 am - 12 pm CNC Wood Router Class (Intro)	9
11 6 pm - 7 pm Embedded Microprocessor Group meeting	12	13 6 pm - 9 pm Open House Night 7 pm - 8:30 pm Laser Cutting & Etching	14	15	16
18 6 pm - 7 pm Embedded Microprocessor Group meeting	19	20 6 pm - 9 pm Open House Night 6:05 pm - 8:05 pm Wood Shop	21	22 9 am - 11 am Open House Saturday 11 am - 1 pm CNC Wood Router Class (Adv)	23
25 6 pm - 7 pm Embedded Microprocessor Group meeting	26	27 6 pm - 9 pm Open House Night 7 pm - 8:30 pm 3D Printing	28 4 pm - 7 pm Reno Robot Club Sumo Challenge!	29	30
1 6 pm - 7 pm Embedded Microprocessor Group meeting	2 6 pm - 7 pm BW Officers Meeting 7:15 pm - 8:15 pm BW Board Meeting	3 6 pm - 9 pm Open House Night 7 pm - 9 pm Metal Shop and Welding	4	5	6

BELOW Click on "Calendar" to go to the Bridgewire calendar with interactive event details.

ALL MEMBERS, If you would like to add an event. Email us at info@bridgewire.org or click on the button below the calendar to schedule your event with details and contact info. The new event will be approved by an officer or director to make it show up. Your events can be any project you want to share or get help with. Add Event

Calendar