



May 2025

President

Ron Doyle N8VAR
n8var@arrl.net

Vice President

Jim Storms AB8YK
veep@w8bi.org

Secretary

Jack Gerbs WB8SCT
jackgerbs@gmail.com

Treasurer

Michael Kalter W8CI
Michael@michaelkalter.com

Senior Trustee

Rob Lunsford KB8UEY
kb8uey@yahoo.com

Junior Trustee

Dan Puckett W8AAU
wd8aa@woh.rr.com

Hamvention

Brian Markland N8UDQ
chair@hamvention.org

Send RF Carrier Material to:

Sam Anderson N8VES
n8ves@yahoo.com

RF Carrier Articles are due:

Issue	Due Date
May	4/21/2025
June	6/20/2025
Sept	8/22/2025

Submit articles in Word format.
Send pictures in separate graphic files

The RF Carrier is published by the Dayton Amateur Radio Association. Permission is granted for reprinting articles provided that credit is given to the original author and the RF Carrier.

RF CARRIER

A Publication of the Dayton Amateur Radio Association

The next Dara General Membership Meeting is Friday, May 2, beginning at 7 p.m. It is being held at the Greene County Fairgrounds and Expo Center. Due to "World Affair" using most of the fairgrounds, we will meet in the 4H Buckeye Room behind the grandstands instead of our usual building. Enter the gate for the World Affair entrance and proceed to the parking attendants. Notify them you are there for the DARA Meeting, and you enter without paying. Proceed to the 4H building and park there.

The topic is "Homebrew," and you are invited to bring a project for viewing and judging. Prizes will be awarded in several categories including "Best in Show."

At this meeting, the election ballot will be finalized for June voting.

Address Change & Membership

Dues are payable July 1st of each year. Regular membership dues are \$10 per year, with \$3 additional per family member living in the same household. Contact the Membership Chair Jeff DeVoe K8JTD at PO Box 44, Dayton, OH 45401 to pay dues, change your address or to update any personal information appearing in the DARA Directory.

If you have any questions about your membership or key fobs, you can contact Jeff at membership@w8bi.org

DARA Membership Renewal

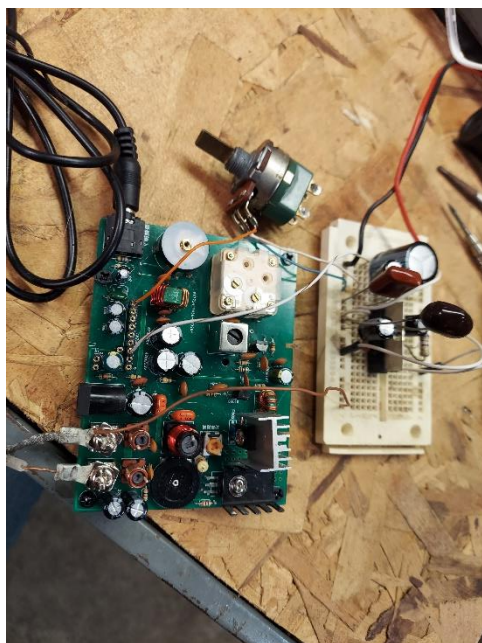
Member ID:	Dues Amount: \$	Check No:
Name:		Call Sign:
Address:		
City:	State:	Zip Code:
Phone Number:		
License Class:		License Expires:
ARRL Member:		
Email Address:		

Homebrew

Thanks to Ron Doyle N8VAR for this month's puzzle.

A	W	R	Y	L	G	U	A	S	R	A	T	P	P
W	I	I	V	F	O	F	L	E	T	S	A	W	R
M	P	E	R	F	R	I	I	A	D	R	S	C	C
S	O	L	D	E	R	F	S	E	R	S	I	A	H
O	F	M	T	T	I	C	V	O	A	E	D	P	A
O	S	C	I	L	L	O	S	C	O	P	E	A	S
R	E	R	P	L	A	T	T	L	B	U	A	C	S
E	I	M	T	I	U	C	R	I	C	R	D	I	I
S	A	H	A	T	S	E	U	T	B	L	B	T	S
I	K	S	A	A	A	J	S	J	S	C	U	O	K
S	O	I	F	P	P	O	R	C	C	R	G	R	S
T	R	L	T	W	E	R	B	E	M	O	H	R	B
E	N	O	R	I	P	P	D	A	E	R	B	T	R
R	D	L	A	M	A	N	H	A	T	T	E	N	O

PROJECT
STRIP
CIRCUIT
AMPLIFIER
OSCILLOSCOPE
MANHATTEN
KIT
WIRE
CAPACITOR
UGLY
PERF
BREAD
CHASSIS
HOMEBREW
SOLDER
BOARD
RESISTER
IRON
DEADBUG
VFO



Got yer Homebrew project ready? Don't forget to bring it to the next meeting .We all want to see what you've built.

 "The Tinkerer's Call"

by Chatgpt

In a quiet shack where the solder flows,
The hum of a rig in the twilight glows,
With winding coils and wires tight,
The radio dreams take flight each night.

A chassis bare, some parts aligned,
A spark of joy the builder finds.
A VFO from scraps and skill,
Tunes the ether with a will.

No glossy case or factory sheen,
But circuits clean and signals keen.
A hiss, a click, a Morse code beat—
A humble homebrew's sweet heartbeat.

The toroids wound with patient hand,
A whisper caught from distant land.
With breadboard chaos turned to grace,
A voice emerges from deep space.

No catalog could ever sell
The pride that in this rig does dwell.
Each knob and switch, each trace and trace,
A story made in every place.

So cheers to sparks and midnight hacks,
To buzzing tubes and jumper stacks.
For in this art, the soul is true—
A world rebuilt by hands like you

*From the Oval Office of the Prez....*

Ron Doyle N8VAR



May is Hamvention which is big, really big! Brian Markland, our Hamvention General Chair, will be giving us the last-minute details on how things are shaping up.

We also have other things going on like our regular May meeting which is Homebrew night! I'm really looking forward to all of your projects that you've been working on. There are more details in the VP's message.

It's also a night to finalize the Board candidates for our next election in June. If you know someone that you would like to see on the Board, come and nominate them at the May general meeting. There are requirements, so check the W8BI website for more information.

73 de Ron, N8VAR



As we have announced before, the Dave Kalter Memorial Youth DX Adventure (YDXA) is holding two trips this year. June 13-15 is our trip to K3LR and will operate on June 14 as W3Y. The plan is to have four youth on the air. We still need kids! The requirement is they must be Extra Class Licensee between the ages of 12 and 18. Some experience in contesting is encouraged. CW experience is a plus. Since this is a close event, we prefer people within driving distance. Hotel and food during the event is provided. A parent or guardian is required.

The second trip is July 17-22 to PJ2T in Curacao. Candidates must be between 12 and 18 and have a valid amateur license (any class) and passport. Again, a parent or guardian is required to travel with them. Contest and CW experience is a plus. Participants must pay their own expenses to our US point of departure which is usually Miami and back home from there. The YDXA picks up expenses from there to Curacao and back to point of departure.

Applications and more information is available at our youthdxa.org website.

Dave Kalter KB8OCP was a big supporter of youth in amateur radio as is his brother Mike W8CI and DARA. Please consider a generous donation to the YDXA at either their web site or at the Hamvention booth. Your donation directly supports these kids. The youth that are chosen are some of the most active young hams in their communities and inspire other kids and classmates to earn their licenses and thus insure a bright future for Amateur Radio. Remember... Inspire, Mentor and Donate. These kids can't thank you enough for YOUR support.

Words from the Vice President

Jim Storms AB8YK



Every successful club has strong leadership and a lot of people involved. Volunteering for Hamvention is appreciated and encouraged. However, many people are involved in the regular running and support of the club. I remember a statement from Mark of the DX Marathon about club involvement, "A strong club has individuals that get together on a regular basis outside of the monthly club meeting." DARA has several opportunities for that to occur. The Thursday Night Group (TNG) is only one such event. Actually, this is a misnomer because TNG contains multiple groups. Typically, we refer to these as Special Interest Groups (SIGs). Another group is the Single Board Computer Group. Are you taking advantage of these opportunities? Field Day is coming up, and this year DARA presents to chance for participation with our club people. If you have never done this event then here is your chance. Try it, you might like it!



The Secretary's Corner

Jack Gerbs WB8SCT



Can't seem to find Jack's report. But rest assured it will be printed in the next edition.... As soon as I locate it on my hard drive... LOL - Editor Sam N8VES

Editor's Notes

Sam Anderson N8VES

Sorry about the lateness of this edition. I got a last second article admission and shoe horned it in. Looking forward to seeing all the homebrew projects at the meeting on May 2nd. Write something up about it and I'll include it in another RF Carrier edition. You never know, might be another member who would like to replicate your project themselves. A good schematic, a couple of pictures and a short description is all you need for a great article.

**RF CARRIER**

Fox Hunt!

No hunt again for this month. Maybe for our June edition ... Of the three winners we had from the last hunt these are two of the winners that received a \$10 Kroger gift card (enough to buy a carton of eggs)

Sharon Brown N8CZD



and Liz Klinc KE8FMJ.



Now just need a pic of Shawna Collins N2TUJ. Congrats to the winners.!

2025 Field Day

Nancy Krodel KC8RMT and Sam Anderson N8VES are still looking for a few volunteers to helpout Field Day this year. Plans are to be at the Wright State University field shelter on Zink Road in Fairborn. Reservations are being finalized and we will have access to the restrooms directly behind the shelter. The shelter also has electric power and “may” have lighting. My YL (not X... she’s younger than me...) works there. So getting the reservation should not pose a problem. We need volunteers for food prep, antenna setup and tear down as well as other duties. The “team” would like to have at least three more. Prelim plans are for 3 Alpha on commercial power. That could change to 4 or even 5 depending on who attends and brings equipment and radios before the first contact. Wanna do Field Day with us? Contact Nancy KC8RMT at KC8RMT@gmail.com or Sam N8VES at n8ves@yahoo.com.

April Meeting Highlights



April Door Prize Winners



Nancy Krodel KC8RMT



Nigel W8IFF



Mike KE8SIB



Mike AC8PZ



Dave WB8RRQ



Mel Markland KD8RTR

The Air Force Marathon 2024

Submitted by Bob Baker N8ADO

Volunteer registration for the 2025 Air Force Marathon opens on May 1, so it seems appropriate to release a report on last year's event. Hopefully, this will build a little interest and encourage volunteers to join.

The 2024 running took place on Saturday, September 21. The US Air Force was created on September 18, 1947, and each year, the race date is set on the Saturday closest to the birthday. As usual, there were three main events: A 10 K race, a half marathon, and the full marathon. The number of runners has declined from what was the norm in the pre-COVID era, but the race day runner count was nearly 7000 in 2024. This year will likely have more runners. Regardless of the number of runners, the course is the same as always and it takes a lot of volunteers to cover all of the assignments.

The Air Force Marathon is the largest event that takes place at Wright Patterson Air Force Base. Most of the race takes place on the base and spectator locations are limited. One benefit of being a volunteer is the chance to be in the middle of the action.

We provide a number of services to the event. Foremost is that we create networks to provide communications between hydration stations and medical stations and the incident command post. We also have a ham in the security station which is the back-up incident command post. This year, it was in a multi-room tent which was very noisy as it also served as a briefing room for official visitors. Hopefully, this is better organized in the future. The hydration stations are part of the logistics or "LOG" net. The hams supply race status information to the captains, report race leader information, relay reports of "runner down" and other medical problems, and help with other logistic issues. The medical tents are part of the medical net. The hams provide status information to the medical leaders, report the need for advanced medical care to incident command, provide a back-up to the medical logistics communications, and provide back-up to the medical dispatch communications. Reports of runners needing transportation back to the finish area are also made. We operate a number of other networks. One is "talk-in" which helps to direct the ham volunteers to their assigned location and to resolve issues with base security. We operate a finish line net to funnel "progress of the race" information to the announcer, including the approach of the race leaders. The hams in the finish area act as spotters, keeping an eye on the runners and the net changes into a medical support net if there is an incident. Finally, we have several hams whose vehicles are equipped with APRS equipment and follow the "tail end Charlies" so it is quick and easy to determine where the ends of the full and half marathons are. We also equip bicycle escorts with tracking devices so that we can determine the locations of the lead male and female runners in the

various races. The hams in the incident command locations have the ability to display the APRS information which is greatly appreciated by the command staff. After the hotwash meeting, the Incident Commander came up to me and passed along praise for the performance of the ham team that was assigned to the Incident Command Post. He noted that our runner down reports were more complete (we almost always reported the runner numbers) and usually arrived well before the reports received through the other networks.

The Saturday before the race, we held a training session. The session was well-attended and the discussion was meaningful. I had posted all of the information in a Google Drive folder so that our out of town volunteers could be up to speed without actually needing to attend the meeting. Everyone did a spectacular job.

Race day started out cool, but the humidity contributed to an early transition to condition yellow. The heat factor was high, but the race was able to complete as planned.

There are always a few problems and the amateur radio volunteers did a great job of helping the Command Staff in solving them. The number one complaint by the volunteers is how early we must arrive to get in place before the road closures. It is frustrating when early is not early enough.

Several hams provided pictures to share. Use the following link to view them.

https://drive.google.com/drive/folders/1KGRAXgfAZN_vFVuczjK9dw_v4Ymt-kwJ?usp=sharing

To all of the volunteers: thank you for your help with this event. Your performance was truly outstanding. The race director told me that they couldn't do the event without our support. I hope that you had some fun and that you come back again on September 20, 2025.

The Air Force Marathon is produced by a permanent staff assisted by the AFM Steering Committee of which I am a member. The Air Force Marathon is a public relations and recruiting tool. The amateur radio support team is not affiliated with any particular club, but we could not imagine doing the event without the support of a number of clubs and I would like to thank them for their support. Some notable examples: DARA and XWARN for providing the vehicles used for the net control stations; UVARC, HHARC, and XWARN for letting us use their repeaters; DARA, XWARN, and MoCoARES for letting us use their APRS trackers. Of course, our volunteers come from these and a number of other clubs. In 2024, we had volunteers from four states.

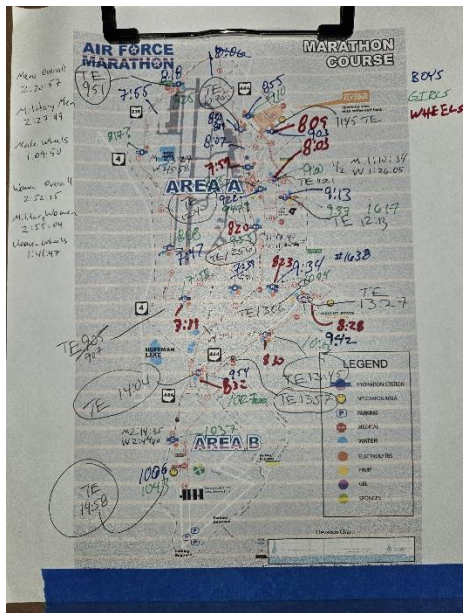
I wish to thank a few individuals who provided special support: KE8FMJ who was my general assistant. N2TUJ who coordinated the Logistics Net Team; KD8DGB who coordinated the talk-in and Medical nets. Thanks to the volunteers who showed up on the day before the race and helped to set up the Command Area operation.

The 2025 Air Force Marathon takes place on Saturday, September 20. Save the date and be a part of the biggest Community Support Event in the Dayton area. The featured aircraft is the KC-135.

Best 73,

Bob Baker, N8ADO — Volunteer Lead for Amateur Radio Support of the Air Force Marathon

P.S. I maintain a mail list using a gmail account (AFM.Hams@gmail.com) that I use to recruit volunteers and to send out information to the volunteers who have signed up. If you wish to be added to the mail list, send an email stating your desire. Also, registering for the Air Force Marathon and selecting the race day job “Amateur Radio” will get you on the list. Volunteer Registration opens May 1. More details about registration will be posted on the Ohio District 3 ARES website as they become available: OHD3ARES.ORG



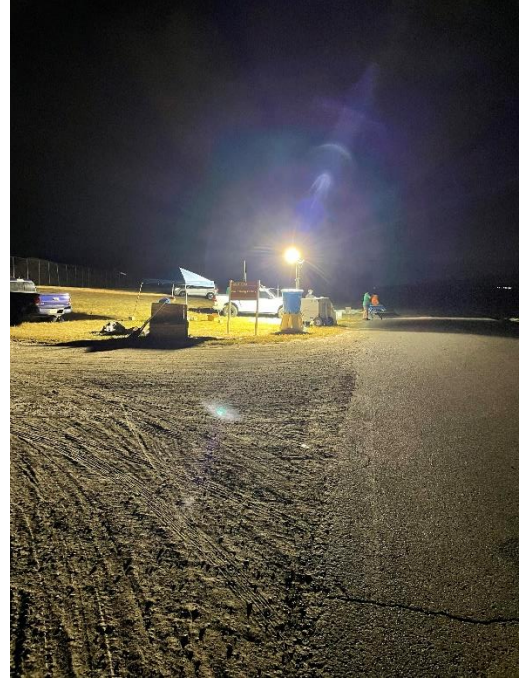
Click on pics for larger views



The Air Force Marathon 2024



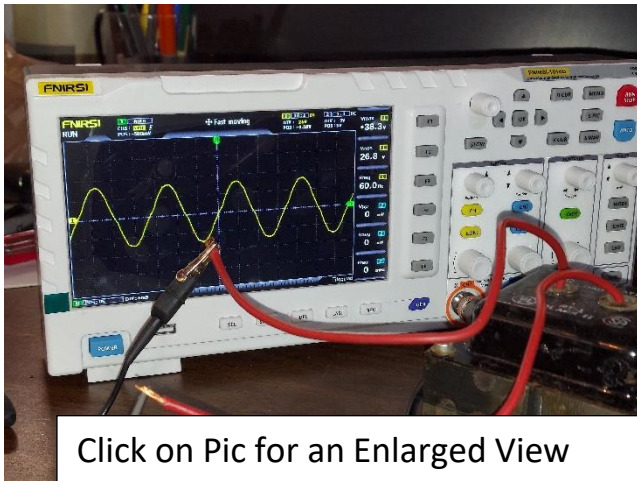
Click on pics for larger views



FNIRSI 1014D Power Supply Mod

Several months ago I purchased a FNIRSI-1014D Oscilloscope on that popular web site. It was the cheapest desktop scope available. I would loved to have bought a Siglent or a Tectronix, but the price was just way out of my budget. Yeah, I heard all of the bashing comments about the FNIRSI not living up to its specs. And those who are bashing it are comparing it to a high end Tectronix or HP scope. The FNIRSI-1014D is a beginner's scope and is replacing my Eico 460 which recently blew a few caps. It's almost 70 years old. I bought it used in the 1980's and got nearly 40 years of use. I'd say I got my money's worth out of it. BTW if anyone is interested in restoring it, it's free for the asking. Come and get it.

Actually, the FNIRSI-1014D does meet its specs – UNDER VERY SPECIAL TESTING CIRCUMSTANCES, which is almost impossible to repeat, let alone set up by the average user. For my use, it will be for fixing my Commodore 64s and testing signals on an Arduino or Raspberry Pi, as well as some use on my radio equipment. For a beginner's digital scope it's more than I expected. It even has a multi waveform signal generator built in. That's cool.



Click on Pic for an Enlarged View

I've already used it to check the peak voltage on an old doorbell transformer that I want to turn into a linear power supply. The voltage turned out to be too high for the regulator IC I want to use it with. I removed several turns on the secondary until I got it down to the acceptable max voltage. It's nice that I can actually use it to measure voltage directly. Something I could only estimate on the Eico 460.

What I found odd about this scope is that it is the only desktop oscilloscope I've found that does not have an internal power supply. All of the other

desktops have their supplies built in. This one has a standard 2.1mm barrel jack for the power input. There is NOTHING printed on the back as to what the voltage input is or the polarity. The power cord that came with it has a barrel plug on one end and a USB plug on the other. It came with, of all things, a 2 Amp 5 Volt CELL PHONE CHARGER. I'm thinking... Are you kidding me? Between my wife and I misplacing those chargers and the frequent visits from the kids and grandkids, those things are like gold in this house. Gotta hide it when it's not in use or it will be like the Lucky Charms Leprechaun and magically disappear.

I recently saw a video of some teenager that bought a 5 volt switching supply and placed it inside the case. His method worked but it was hap-hazard and it didn't show any of his steps. So I thought, I can do that and document my progress.

The case on this is 2 ¾ inch thick. Seven screws holds the back cover in place, which is 2 inches thick. After removing the back cover there is a single board inside the front cover

that has all of the electronics on it (connectors, encoders, the LCD screen). There's a TON of empty space inside. Plenty of room to insert a power supply.

The manual states NOT to use any power supply other than the one that comes with it for grounding reasons. Can't understand why. The cell phone charger that came with it has only two prongs and isn't polarized for the mains. There's nothing going to the mains ground. Although that kid bought a new supply for his scope, I figured I would just mount the supply that came with it inside the case (and thwart the magic of the Lucky Charms Leprechaun... NYA, NYA!).

To power it from the mains, I needed an IEC jack for the power cord. I cannibalized a computer power supply for the jack. It has several MOV capacitors soldered to it. I left them in place. They worked just fine on the computer supply, it will be just fine on this.

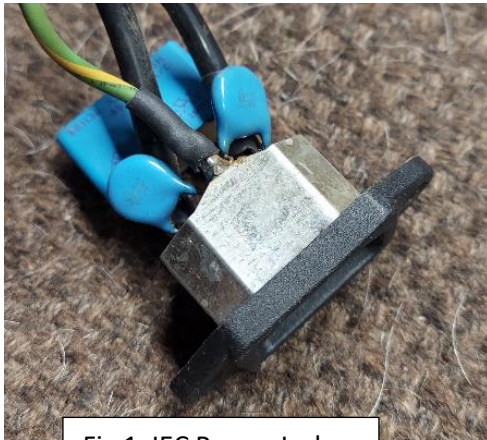


Fig 1 IEC Power Jack

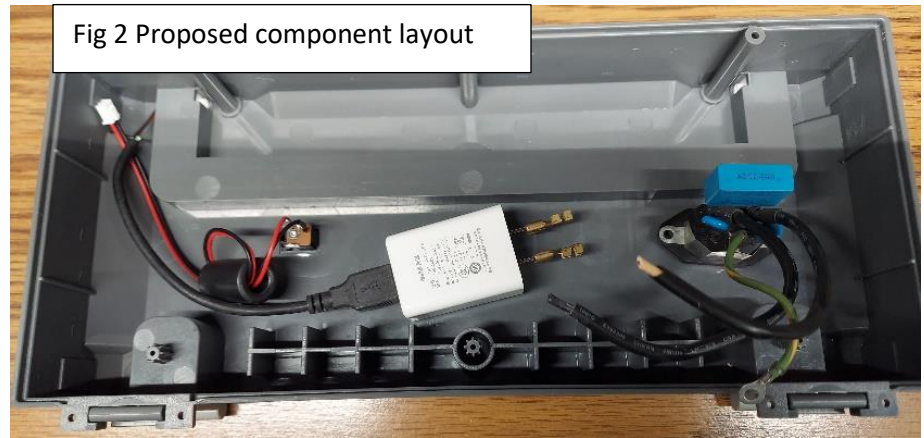


Fig 2 Proposed component layout

[Click on Pics for an Enlarged Views](#)

Originally I was going to remove the barrel jack and enlarge the hole for the IEC jack. But after closer examination I found that FNIRSI didn't go totally cheap on this. There's a third solder lug on the jack that switches in and out when a barrel plug is inserted. That meant that I could wire this up so that I could use it portably and switch out the internal supply when using a battery pack. This way I'm not excessively draining the external battery by running power through unnecessary components of the internal supply.

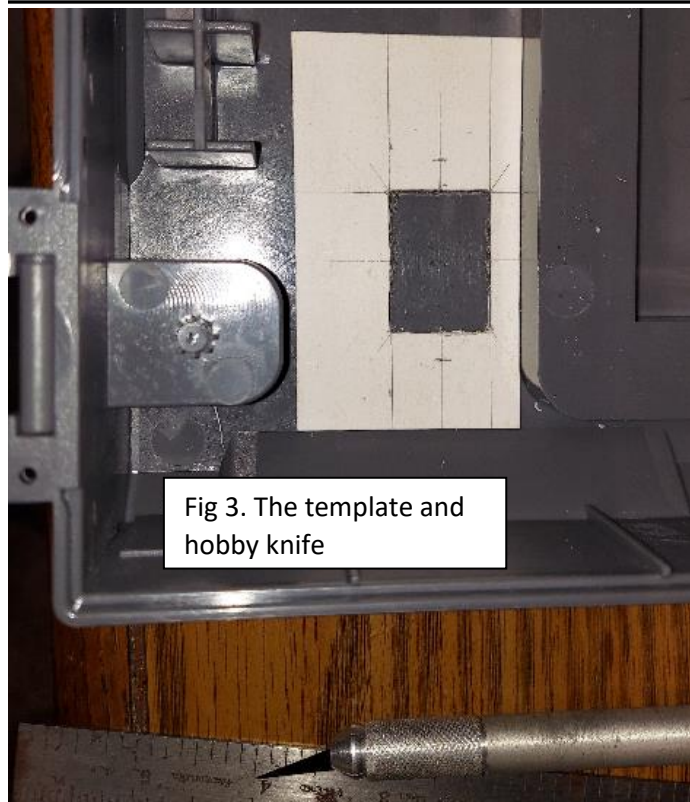


Fig 3. The template and hobby knife

In order to make this look kinda nice, I made a template for the hole I needed to mount the IEC jack. Instead of drilling holes and using a hack saw, I used a sharp hobby knife. Don't laugh just yet. Alone, that hobby knife would have taken FOREVER to cut through the plastic case. But it slices through it like butter when you heat it up with a torch. Melting through it like that actually made the hole slightly bigger than I wanted but not so big that it's noticeable after assembly. If you decide to do this method, make the template hole size a bit smaller to account for the width of the knife and some melting. If it winds up too small, you can customize it with a small fine mill file. Yes, MILL FILE. A rough bastard file will take off too much material at once and risk cracking the plastic case.

With the hole cut and the jack mounted, it's time to wire everything up. I wanted to make the wires to the charger as short as possible but not so short that I couldn't replace that charger if needed. I wrapped one turn of the supply lead to the board around a ferrite bead I had in my junk box to make a crude RF choke and filter out some of the noise from the charger unit. Phone chargers are notoriously noisy at RF and this supply is no different. Plugging into the outlet with the three foot cable attached injects some noise into the power rail. You can barely see it on the screen in a square wave signal. With the supply in the case, I'll need to add some shielding to knock back some of the noise.



Click on Pics for Enlarged Views

Here's the final connections I made. From the mains jack are two automotive blade connectors that "slips" on the charger prongs along with some unshrunk heat shrink tubing for extra protection. On the other side of the charger the USB cable connects to the switched prong of the barrel jack and the leads to the board connects to the

unswitched prong and center connector. And, of course, the ferrite bead choke is added for (some) noise suppression.



Click on Pics to for enlarged views

In order to keep noise from the charger unit at bay, I fashioned a metal shield around it from an aluminum casserole pan. The output end is open but I can fashion a screen shield for that if needed. At the mains end I connected the ground lead to the shield with a machine screw, nut and lock washer. Without the shield, the noise on

the scope is noticeably higher but still not objectionable. With the shield the noise is about the same or slightly better than it was before I started this project. To hold everything together, I used hot glue. I love stuff. It's strong enough to hold everything down and so strong that I can't remove it to make repairs.

In all, this project took about four evenings to complete. It wasn't difficult to do and using the glue to hold everything in place meant I didn't to drill extra screw holes in the case. In fact, if I hadn't made the IEC power jack hole too large, would not, without close inspection, tell that this was ever a DIY project.



So now I have a beginner's digital scope that I can use on my bench or take to field day on battery power. HA! Take that FNIRSI bashers!

73 de Sam Anderson N8VES

N8VES@yahoo.com

Sample Exam Questions

T2B02

What term describes the use of a sub-audible tone transmitted along with normal voice audio to open the squelch of a receiver?

- A. Carrier squelch
- B. Tone burst
- C. DTMF
- D. CTCSS

G3B02

What factors affect the MUF?

- A. Path distance and location
- B. Time of day and season
- C. Solar radiation and ionospheric disturbances
- D. All these choices are correct

E2B02

How many horizontal lines make up a fast-scan (NTSC) television frame?

- A. 30
- B. 60
- C. 525
- D. 1080

DARA Repeaters

W8BI 146.94 (-600 KHz) CTCSS 123 Hz

W8BI 223.94 (-600 KHz) CTCSS 123 Hz

W8BI 442.10 (+5.0 MHz) CTCSS 123 Hz

W8BI ATV 421.25 (439.25) 144.34 Common Audio

DSTAR

147.105 (+600 KHz) W8RTL^^C (^ Denotes a space)

443.050 (-5.0 MHz) W8RTL^^B

1283.50 (-12 MHz) W8RTL^^A DV

1249.00 Simplex W8RTL^^A DD

Test Answers:

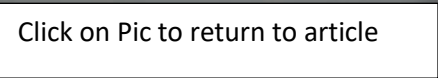
T2B02 D. CTCSS

G3B02 D. All these choices are correct

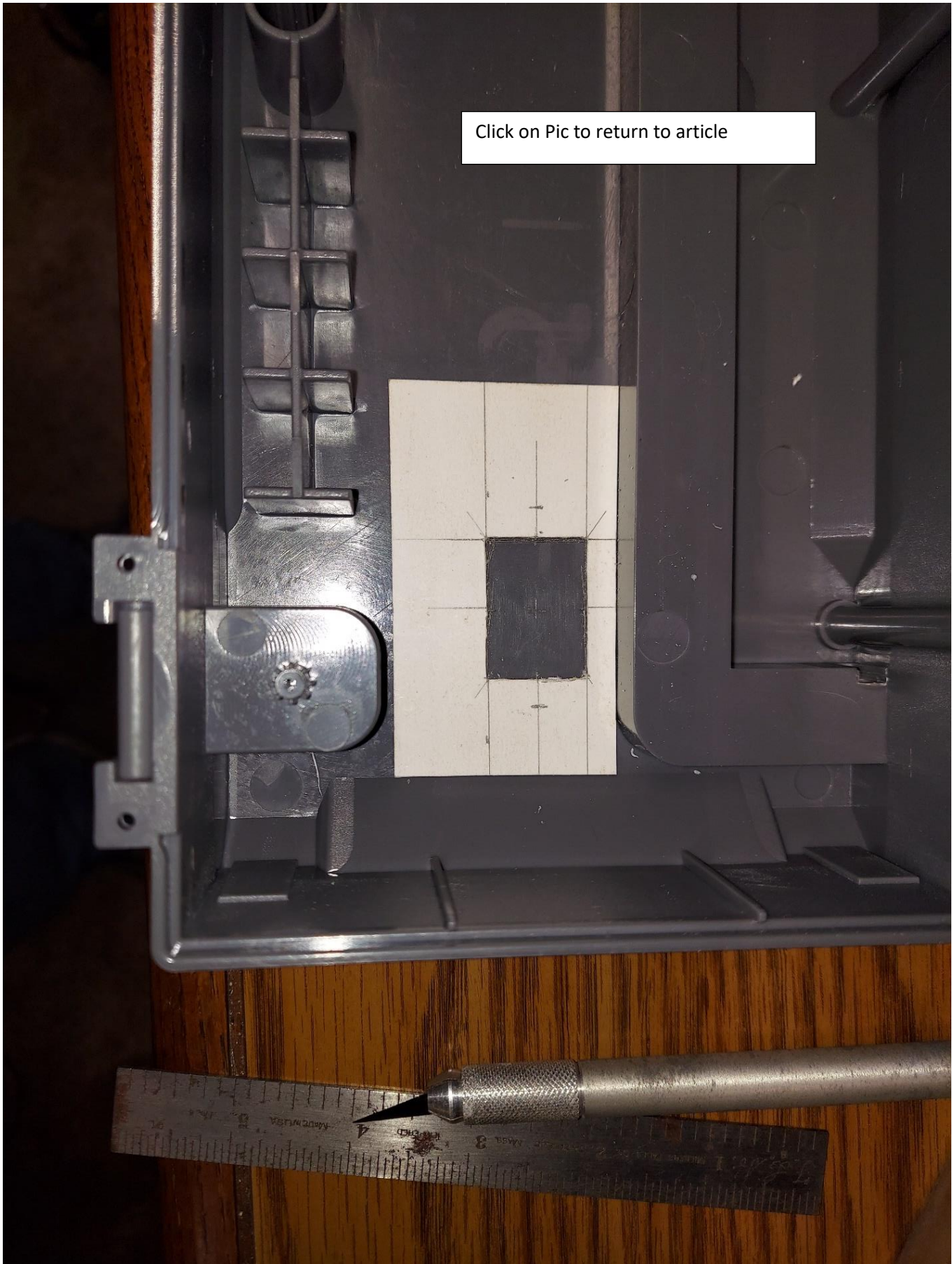
E2B02 C. 525



[Click on Pic to return to article](#)



[Click on Pic to return to article](#)



[Click on Pic to return to article](#)

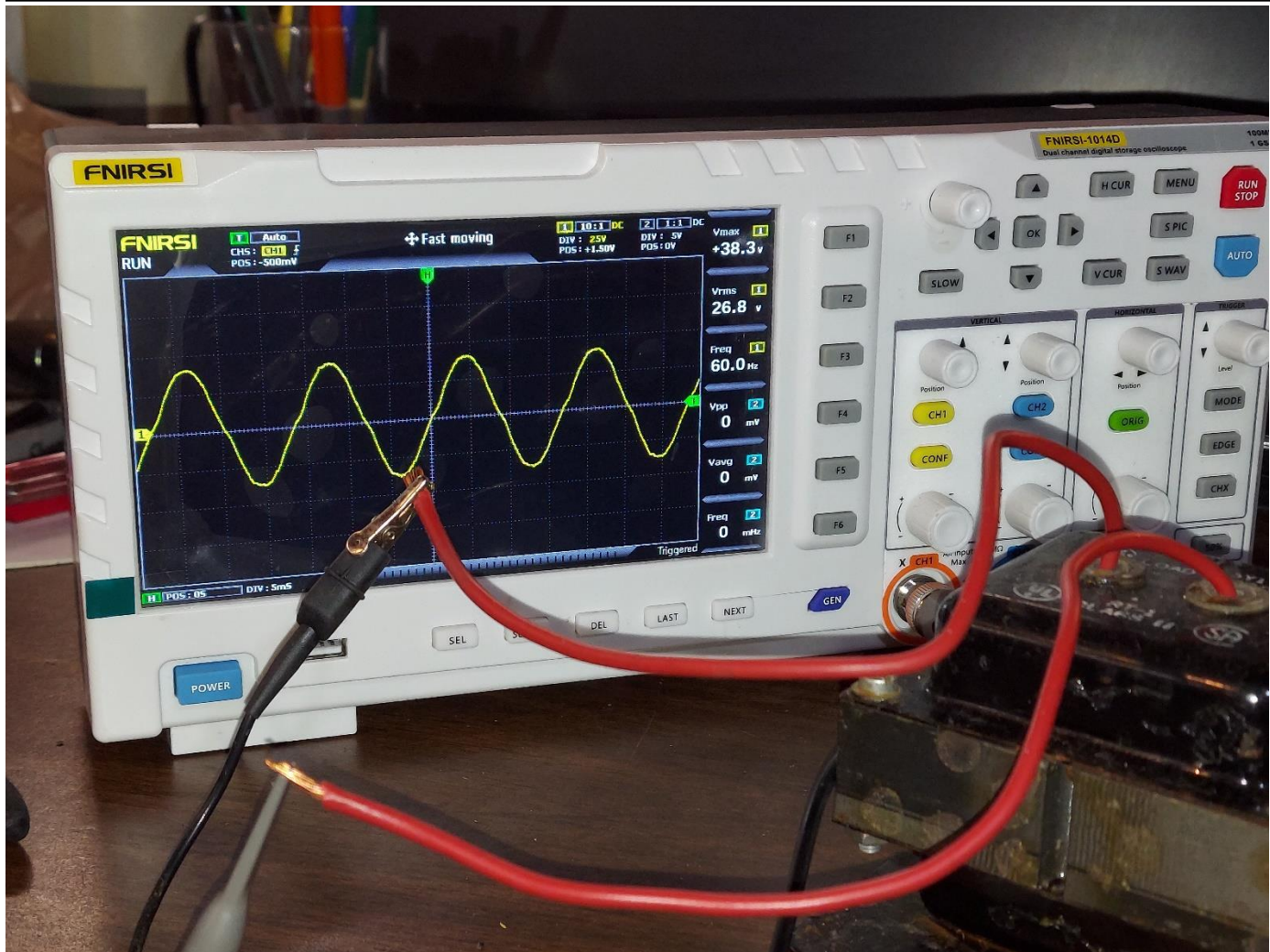


[Click on Pic to return to article](#)



[Click on Pic to return to article](#)





[Click on Pic to return to article](#)



[Click on Pic to return to article](#)

