



August 2020
Volume 58, Issue 8
Our 101st Year

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Website:

<http://www.mvara.org/>

**The Voice Coil
Newsletter of the
Mahoning Valley Amateur
Radio Association
Established 1919**

The Voice Coil

This past weekend you should have received an email sent by me from Dean inviting you to the Corn Roast on August 13th.

I have had the weight on my shoulders for more than a few months now whether to hold this event. I have talked with people that I trust their opinion and Dave and I have talked about this on more than one occasion. I even polled the net one night and everyone on the net said we should have it except for one person. The board has had meetings on the subject, how we would handle it and what we could do to make this as safe as possible for all those involved.

The Club will be responsible for all food this year. Hamburgers, hotdogs, potato salad, beans and whatever else Dean has on the menu. The Club will also be providing the dessert this year. All food will be handled by the cooking crew and the board members only and they will all be wearing gloves and masks when they do this.

Dinner will not be served as a buffet this year. Dinner will be served to you by the board members. You will pick what it is that you want on your plate and the board will put it on there and pass your plate to the next board member and you will collect your plate at the end of the line. There will be individual packages of butter, ketchup, mustard, and



mayo. No community bottles.

I have said it before and I will say it again as long as this Covid-19 is around, "My concern is you folks." I don't want anyone to get sick from coming to a meeting, community service event, corn roast or anything else we do. We will be outside and should be ok but if you want to bring your mask and wear it that's ok do so I will. Hope to see you all on the 13th.

-Scott, KE8UHC

**Annual Corn Roast at
Boardman Park,
Master's Pavillion, 6:30.**

**See article in newsletter
for further information.**

Do you still have an email address with (your call)@ARRL.net? We're still getting mail returned. Please provide an alternate email.

2020 Officers

President: Scott Wilton, KE4UHC
Vice President: Dave Brett, KD8NZF
Secretary: Mike Malarky, W8IWD
Treasurer: Nancy Brett, KD8QNY
Trustees: Dean DeMain, W8YSU (1)
Jerry Goddard, KC8EFO (1)
Mike McCleery, K8PRR (2)
Bryan Bartzi, KF8G (2)

Newsletter Editor: Mark Haverstock,
K8MSH

Awards Manager: Dave Fairbanks,
N8NB, 330.759.6993, 4770 Logan
Ave. Youngstown, OH 44505

The Mahoning Valley Amateur Radio Association, Inc, meets the second Thursday of every month. Location and time are subject to change. Dues are \$20.00 per year, \$10.00 each for additional family member. Contact Nancy, kd8qny@zoominternet.net for membership details.

The club call is **W8QLY**; equipment operated under this call includes a two meter voice repeater at 146.745 (-600, 110.9 PL). Club email: mvara.w8qly@gmail.com

MONDAY NIGHT NET operates every Monday at 9:00. PM on 146.745 MHz.

SKYWARN NET - First Wednesday of the month at 8:30 PM on 146.745 MHz as weather warrants.

ARES NET- First and third Mondays of each month at 8:30 PM on 146.745 MHz; prior to the Monday Night Net.

Field Day 2020 is Shaping Up to be One for the Record Books

ARRL Contest Program Manager Paul Bourque, N1SFE, reported that ARRL has received more than 8,700 online Field Day entries by mid-week, and paper-only entries have started arriving too.

“As many participants chose to operate from home this year — and given the 2020 rules waivers, we have seen a tremendous increase in entries over last year’s event,” Bourque said. “Most of the entries received have been through the online [web app](#), and Headquarters staffers have begun processing the paper entries this week. The 2020 waivers allowed individual club members to attribute their scores to their clubs.

Participants who submitted entries online are encouraged to check the Field Day [entries received](#) page to verify that their entries are marked as complete, and that the club name entered is correct. Entries with a status of “pending” are incomplete entries that are missing one or more items, and these need to be completed for an official entry. Share your stories and photos using the ARRL [soapbox](#) or via social media, such as on the ARRL [Field Day Facebook group](#).



WWW.ARRL.ORG

License Refresher Answers:
E1B01 (D) [97.3]
E1B02 (A) [97.307(f)(2)]
G3C01 (A)
G3C02 (A)

Current Activities

August 13: Corn roast, Boardman Park, 6:30 pm.

Contact Us:

-Email: mvara.W8QLY@gmail.com

-Snail-mail: MVARA, P.O. Box 14141, Poland, OH 44514

-Meeting ideas/ suggestions? Contact Dave, KD8NZF,
KD8NZF@zoominternet.net

Hamfest Calendar: Due to the coronavirus epidemic, there are no listings for the immediate future in our region.

CORN ROAST: The MVARA annual Corn Roast will take place on Thursday August 13th in Boardman Twp. Park, It will be held at the Master's Pavilion. This is located on the west side of the park off of Southern Blvd. All members and their families are encouraged to attend! We will eat dinner at about 6:30 pm, but you can arrive anytime after 5:30 pm to help shuck the corn (with gloves on).

As in the past the club will provide the hamburgers, hotdogs, corn, beverages, and table settings. The Club will also provide **SIDE DISHES AND DESSERT** this year that will be served by the committee; who will be wearing masks and gloves. Hand sanitizer will be provided near the beverage area and food line. You may also bring your own beverage if you like.

Hope to see you all there. If you have any questions please contact Dean DeMain (W8YSU) @ 330-788-4271 or E-mail w8ysu@arrl.net

Directions will be available on W8QLY 146.745/R beginning @ 5:00 pm.

Dean DeMain, W8YSU, Chairman



Tech Classes Move Online

By Dan Romanchik, KB6NU

I've been teaching ham classes for more than a dozen years now. My specialty has been the one-day Tech class. In this type of class, you review all of the questions in the question pool with the students over the course of six to eight hours, and then immediately give them the test before they can forget anything.

I would hold these classes three or four times a year and regularly have 20 – 30 students in each class. The pandemic, of course, has put the kibosh on these classes. The last one I taught was in January.



Frankly, I was wondering if I'd ever teach one again. A little over a month ago, however, I was approached by a fellow in Portland, Oregon about teaching an online class for some folks that he'd corralled there. After giving it some thought, I said yes.

So, now, in place of face-to-face classes, I'm teaching online Tech classes. There are plusses and minuses to this approach. One negative is that I miss the face-to-face interaction with the students. On the plus side, teaching online allows me to offer classes more frequently. My first was in June. Last week, I completed the second class, and in August, I will teach a third class.

I have had to make some changes to the format. Making people sit in front of a computer for six hours or more seemed like cruel and unusual punishment. So, instead of a one-day class, the online class consists of four, two-hour sessions, spanning two weeks:

- Session 1
 - Electrical Principles
 - Electronic Components and Circuit Diagrams
- Session 2
 - Radio Wave Characteristics
 - Antennas and Feed Lines
- Session 3
 - Amateur Radio Signals
 - Electrical Safety
 - Amateur Radio Practices and Station Setup
- Sessions 4
 - Station Equipment
 - Operating Procedures
 - Rules and Regulations

This seems to be working out pretty well. I'm using Zoom, and most people have been able to attend without too much hassle. To simulate the whiteboard that I use extensively in the face-to-face class, I'm using the Autodesk Sketchbook program (<https://www.sketchbook.com/>) and sharing my screen with the Zoom meeting attendees. To write on the "whiteboard," I'm using a Gaomon M10K2018 drawing tablet.

Sketchbook allows me to build up a document in layers, and the result is kind of a hybrid PowerPoint presentation and whiteboard. I can make layers appear when I start discussing a particular topic and then write over them. For example, when I go over the questions that use Ohm's Law to calculate current in a

circuit, I display the later with “E = I x R” and on a second layer, show how to calculate the answers to the questions

To take the test, students have to sign up for an online test session. Fortunately, several VE groups are offering online, remote testing. To sign up for one of these sessions, all students have to do is go to <https://hamstudy.org/sessions>. For the first two classes, the W5YI VEC scheduled a special test session.

I foresee teaching these classes monthly until the demand wanes. The next class will start on Monday, August 3. To register for the class, go to <https://www.kb6nu.com/product/next-online-tech-class/>. To find out when these classes will take place in the future, potential students can sign up for my mailing list by going to <https://landing.mailerlite.com/webforms/landing/m6l6t4>.

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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not teaching ham radio classes, he likes to operate CW on the HF bands, go for long walks around Ann Arbor, MI, and volunteers for Rotary Club service projects.

DX Operating Information

Dave Fairbanks N8NB

Credit for the below information and further information on these operations and others can be found at the following website:

<http://www.ng3k.com>

August						
2020 Aug02	2020 Aug07	Aruba	P4	LoTW	DXNews 20200604	By KM4VI as P4/KM4VI fm IOTA SA-036; HF; SSB; QSL also via KM4VI direct and eQSL
2020 Aug02	2020 Aug08	Aruba	P4	LoTW	TDDX 20200106	By NY4P as P4/NY4P fm Noord; 80-20m; SSB; 5w; magnetic loop; QSL also OK via Club Log OQRS
2020 Aug08	2020 Sep15	Ghana	9G5GS NEW	LoTW	DXNews 20200713	By IZ4YGS; HF; FT8 SSB; QSL via IZ4YGS direct
2020 Aug22	2020 Sep05	St Kitts & Nevis	V47JA	LoTW	W5JON 20200527	By W5JON fm Calypso Bay; 160-6m, incl 60m; SSB FT8; yagi, verticals; QSL also OK via W5JON direct
2020 Aug27	2020 Sep07	Easter I	XR0YHM	LoTW	TDDX 20200415	By DK2HM; 80-10m; SSB + digital; holiday style operation; QSL OK via Club Log OQRS, eQSL, DK2HM (B/d)

Contest and Special Event Operating Information

Dave Fairbanks N8NB

Data below as well as more information courtesy of the following website:

<http://www.hornucopia.com/contestcal/index.html>.

August 2020

+ Batavia FT8 Contest	0000Z, Aug 1 to 2359Z, Aug 2
+ 10-10 Int. Summer Contest, SSB	0001Z, Aug 1 to 2359Z, Aug 2
+ European HF Championship	1200Z-2359Z, Aug 1
+ WAB 144 MHz Low Power Phone	1400Z-1800Z, Aug 1
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 1
+ ARRL 222 MHz and Up Distance Contest	1800Z, Aug 1 to 1800Z, Aug 2
+ North American QSO Party, CW	1800Z, Aug 1 to 0559Z, Aug 2
+ SARL HF Phone Contest	1400Z-1700Z, Aug 2
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 4
+ ARS Spartan Sprint	0100Z-0300Z, Aug 4
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 4
+ Phone Fray	0230Z-0300Z, Aug 5
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 5
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Aug 5
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 5
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 6
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 6
+ NRAU 10m Activity Contest	1800Z-1900Z, Aug 6 (CW) and 1900Z-2000Z, Aug 6 (SSB) and 2000Z-2100Z, Aug 6 (FM) and 2100Z-2200Z, Aug 6 (Dig)
+ SKCC Sprint Europe	1900Z-2100Z, Aug 6
+ QRP Fox Hunt	0100Z-0230Z, Aug 7
+ NCCC RTTY Sprint	0145Z-0215Z, Aug 7
+ NCCC Sprint	0230Z-0300Z, Aug 7
+ WAE DX Contest, CW	0000Z, Aug 8 to 2359Z, Aug 9
+ QRP ARCI European Sprint	0800Z-1100Z, Aug 8
+ SKCC Weekend Sprintathon	1200Z, Aug 8 to 2400Z, Aug 9
+ Maryland-DC QSO Party	1400Z, Aug 8 to 0400Z, Aug 9
+ RTTYOPS Weekend Sprint	1600Z-1959Z, Aug 8
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Aug 10
+ SARL Youth Sprint	1200Z-1400Z, Aug 10
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Aug 11
+ MMonVHF/DUBUS 144 MHz Meteorscatter Sprint Contest	1500Z, Aug 11 to 1459Z, Aug 13
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 11
+ NAQCC CW Sprint	0030Z-0230Z, Aug 12
+ Phone Fray	0230Z-0300Z, Aug 12
+ CWops Mini-CWT Test	1300Z-1400Z, Aug 12
+ VHF-UHF FT8 Activity Contest	1700Z-2000Z, Aug 12
+ CWops Mini-CWT Test	1900Z-2000Z, Aug 12
+ CWops Mini-CWT Test	0300Z-0400Z, Aug 13
+ RTTYOPS Weeksprint	1700Z-1900Z, Aug 13
+ QRP Fox Hunt	0100Z-0230Z, Aug 14

2 METER CONTEST



On May 30, 2020 the MVARA reinvented the Lou Malice Memorial contest as The Mahoning Valley Two Meter Contest. Coronavirus concerns caused us to reschedule the the contest from March to May and to eliminate rover stations but even the worst pandemic since the 1918 Spanish Flu, couldn't stop us from getting on the air and having fun.

There were 17 unique call signs in the logs and 7 different club members participated. 12 different grids were activated and 7 logs were received. The High power category was won by the K8GQB, the Lisbon Area Amateur Radio Association club call, with KD8XB Scott Dunn as the operator. There were no QRP power entries.

Everyone enjoyed the relaxed pace with plenty of time to chat. Next year should be even better with rover stations being able to activate more grids.

Here are the results:

High Power Stations

Rank	Call	Power	Qso's	Grids	Score
1	K8GQB	High	13	9	117
2	AC8GU	High	9	7	63
2	KD8QNY	High	9	7	63
3	KD8NZF	High	5	5	25
3	K8WAM	High	5	5	25
4	KD8ODF	High	6	4	24

There were no QRP power entries

Check Logs

Call	Power	Qso's	Grids	Score
KB8GAE	High	7	6	42

This year's contest was dedicated to the memory of pioneer Valley ham Lou Malice WA8PKN whose dedication to amateur radio touched the lives of all of us. Even if you never had the pleasure of knowing Lou you are still part of his legacy. Chances are good that the hamswho inspired and encouraged you to become part of amateur radio were, themselves, inspired, encouraged, and trained by Lou. Hope to hear you all in next year's contest. —Rich, KB8GAE

HAM HUMOR: HISTORICAL PERSPECTIVE: GOLDWATER'S "NO QRM" PLATFORM NOT RESONANT WITH PUBLIC



By [K5PO](#), on the scene

WAVERTON, Maine – Bob Makins loves history, especially political history. So much so, in fact, that he dedicated eight years of his life to earning a Doctorate in Political History from Martinville College that he’s used for the past 15 years as a clerk at the Waverton Electrical Supply store. Mr. Makins’ living room is piled with books covering the gamut of political history. From the Declaration of Independence to the bombing of Pearl Harbor, Makins has a book about it.

There is one political moment that Mr. Makins doesn’t have a book about yet, and so he’s writing one himself. “Perhaps the moment in American politics I find the most engaging,” muses Makins, “is a speech given by then presidential candidate Barry Goldwater when he outlined his campaign platform.”

Makins claims this speech was the seminal moment in the 1964 presidential election; one that turned the tide against Goldwater. Barry Goldwater was a well-respected Republican Senator from Arizona who rose to the Republican nomination in the 1964 presidential election following a hard-fought defeat of New York Governor Nelson Rockefeller.

Goldwater stepped into the presidential limelight with a head full of steam. By late September of 1964, Goldwater seemed all but set to walk into the White House, at that point holding double digit leads in polls over Democratic rival Lyndon B. Johnson. It all changed one chilly evening in southern Nevada.

Goldwater was slated to speak at the town center in Feldun, Nevada, on October 11, 1964. Things seemed to be going exceptionally well. The crowds were very excited to see their man step up to the podium. Ever punctual, Goldwater began his speech promptly at 7:00 p.m. Initially, it seemed to be going superbly. Goldwater’s message of fiscal conservatism seemed to speak to the Nevada audience that evening.

“And then he introduced a new topic. It was at about 7:13 p.m.,” Makins states proudly. Goldwater, who in addition to his years of government service, was also an avid amateur radio operator. He had spent the week leading up to the speech with his “ham” buddies working DX and forming a new policy platform that Goldwater planned to introduce at his Feldun, Nevada, speech. “We thought it was a damn fine idea!” claimed Jack Smoot, a good friend of Goldwater’s and also an amateur radio operator.

“Fellow Americans,” started Goldwater at the podium, “I want to introduce to you a new policy. One that I feel is vital to the very fabric of our country.” Most of the audience expected Goldwater to follow with his typical anti-communist rhetoric, but he continued into unexpected territory. “I put forth that under my presidency, the full power of the executive branch will be dedicated to the elimination of vicious QRM!” Goldwater spoke boldly. “No longer will amateur radio operators be forced to QSY when some shmuck running five kilowatts steps in a kilocycle away from their operating frequency!” continued Goldwater. “No longer will we be forced to endure lids calling on the DX frequency when he’s in the middle of a QSO. This is America, and we’re not going to take it anymore!”

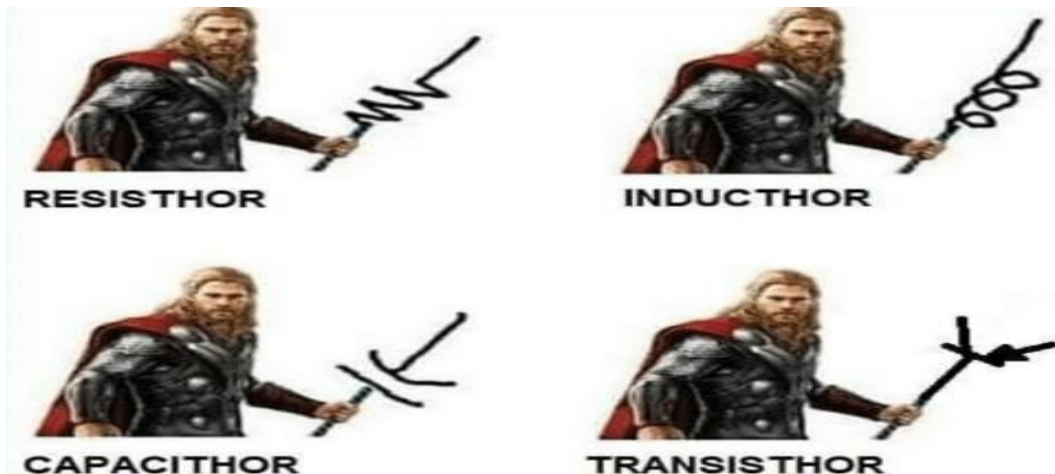
An uproarious cheer erupted from the back of the crowd. The Feldun Amateur Radio Club was enraptured by the speech. They looked at each other in amazement. Never had they heard a candidate speak to them so directly. “We knew he was our man right then!” quipped William Balt, the president of the radio club.

Unfortunately for Goldwater, this message did not resonate with the rest of the audience. Puzzled looks spread across the Feldun town center. “They had no idea what the hell he was talking about,” smirked Makins. “I guess he just totally forgot that most everyone was not an amateur radio operator and couldn’t give a crap less about their ‘QRM.’” Worse yet, the American public didn’t copy the message, either. The speech’s coverage by the Feldun Crier newspaper was picked up on the newswire and was republished across the country. The headlines were damning to the Goldwater campaign. “Goldwater Doesn’t Make Contact,” cited the Phoenix Gazette.

It wasn’t long before the Johnson campaign got in on the act, too. Johnson, who had never even heard of amateur radio, mocked his rival. “I don’t think Barry is copying you, America!” Johnson told to roaring laughter at a press conference on October 18, amid a sea of signs with “QR WHAT?” in large lettering.

Of course, as history knows, Goldwater went on to lose the general election by one of the largest margins ever. It’s clear that the message that Goldwater felt was so important to his country, truly never got through.

www.hamhijinks.com



Amateur License Refresher

Dave, KD8NZF



It's probably been awhile since you took your Amateur License exam. Here are a few sample questions from the current question pools just to keep those synapses firing. The questions in the Extra section below are from the new Extra Exam that took effect July 1, 2020.

Extra Pool

E1B01

Which of the following constitutes a spurious emission?

- A. An amateur station transmission made without the proper call sign identification
- B. A signal transmitted to prevent its detection by any station other than the intended recipient
- C. Any transmitted signal that unintentionally interferes with another licensed radio station
- D. An emission outside the signal's necessary bandwidth that can be reduced or eliminated without affecting the information transmitted

E1B02

Which of the following is an acceptable bandwidth for Digital Radio Mondiale (DRM) based voice or SSTV digital transmissions made on the HF amateur bands?

- A. 3 kHz
- B. 10 kHz
- C. 15 kHz
- D. 20 kHz

General Pool

G3C01

Which ionospheric layer is closest to the surface of Earth?

- A. The D layer
- B. The E layer
- C. The F1 layer
- D. The F2 layer

G3C02

Where on Earth do ionospheric layers reach their maximum height?

- A. Where the sun is overhead
- B. Where the sun is on the opposite side of Earth
- C. Where the sun is rising
- D. Where the sun has just set

Answers pg. 2

What an Opportunity!

ARRL members have been able to access an archive of QST online for some time. The archive includes issues dating back to 1915 and up to the current issue.

Now ARRL has made several more magazines available online and one in particular is starting a series of articles that are an incredible opportunity to learn the technology of Amateur Radio.

QEX is an ARRL publication that focuses on the experimentation side of Amateur Radio. If you have ever seen an issue, the first thing that hits you is that it is written to a much deeper technical level than for instance QST. That can be a problem as most Hams don't have advanced engineering backgrounds. Starting with the next issue, Eric Nichols, KL7AJ, is doing a multipart series of essays covering the basics of electronics as it applies to Amateur Radio. Eric is a well-recognized author, having written four books for ARRL and published numerous articles in QST and QEX.

An outline of the expected essays is in the current (July/August) issue of QEX, available online at: <http://www.arrl.org/arrl-magazines> . Some of the topics listed in the outline include:

- Setting up a home experimenters lab
- The Maximum Power Theorem (This is why we worry about matching our antennas to feedline and radio impedance)
- An introduction to Digital
- Filter Design

In all there are 17 topics in the current list.

One possible gotcha on this is it does not look like ARRL is offering an archive of QEX editions on their website like they do for QST. They may only be available for the current month. You can print the entire edition and if you use the Print to PDF function, it will save the edition as a PDF file instead of sending it to your printer.



Too Easy! Dave, KD8NZF

In recent years the trend in power supplies for Amateur Stations has been toward switching supplies. They are a fraction of the size of a comparable analog supply, tend to be more efficient, and create less heat. On the downside, because of their high frequency switch circuit, they are more difficult to filter and can create interference.

The two types are roughly equivalent in price, usually between \$100 - \$300 depending on brand and output current. Over the years there have been plenty of articles on converting computer power supplies for Amateur use, but they tend to be an awkward size and shape. Depending on age they may only provide 100-250W of power. If we round that to 200W, that's only about 16A of current and most Amateur Supplies are rated more in the neighborhood of 25-30A.

Lately though, the supplies used in computer servers have become very cheap on the used market, have outstanding current capability, are fairly compact, and the modifications for amateur use are simple. Here's an example of an HP server supply on ebay, 62A @ 12V, and well under \$20 including shipping. Looks like a no-brainer so I tried one out.

To use these you need to do two things. Add a resistor across the start up pins to fake the supply into thinking its in a server and add a pair of jacks to connect to your power wiring. Optionally you can also add a switch if you want to be able to switch it on instead of having it run any time it is plugged in.

The first mod is done by soldering a resistor across two pins at the back of the supply. The value is not critical and usually specified about 330 – 1000 ohms. I used a 470ohm .25W resistor. The two pins are the first and fourth pins as illustrated. If you want to add a switch just put it in series with the resistor. The only caution is to watch out for solder bridges. (Don't ask) For purposes of the photo, I stuck the switch to the top of the case so it would be obvious.

The second part is adding output jacks. On the circuit board at the back of the unit there are two large copper pads. These are the + and - outputs. You should confirm with a DMM. Simply drill a hole in each pad



HP 750W Power Supply PSU 486613-001 451366-B21
449840-002 449838-001 HSTNS-PL12

🔥 1 watched in last 24 hours

★ ★ ★ ★ ★ Be the first to write a review.

Condition: Used

Quantity: 2 available / 2 sold

Price: **US \$15.50**

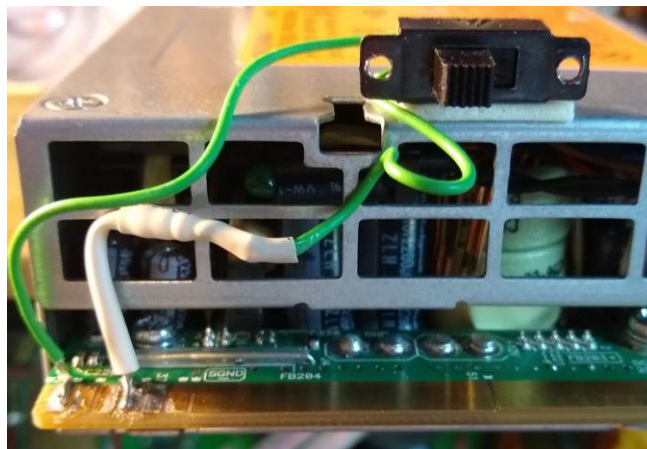
Buy It Now

Add to cart

Best Offer:

Make Offer

♥ Add to Watchlist



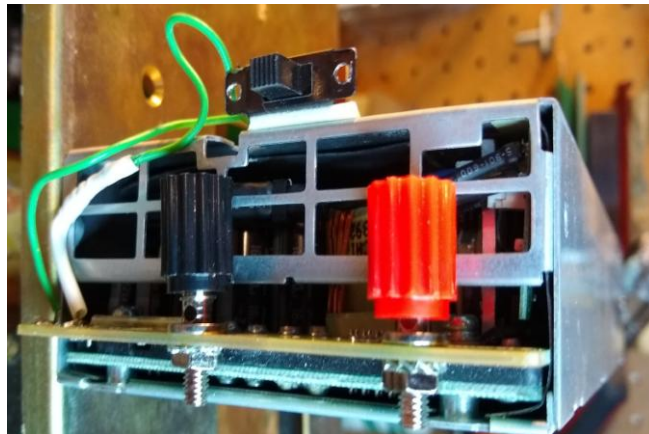
and screw on the binding posts. That's it, you're ready to go.

Incidentally there is another mod that will increase the output voltage from a nominal 12.6VDC to 13.6VDC. Instructional video on YouTube here:

https://www.youtube.com/watch?v=tqDNg_HCvFk

and a step by step video on adding the resistor and switch is here:

<https://www.youtube.com/watch?v=Fmdbh2G4U>



SWAP & SHOP

I have 2 Astron power supplies, RS-35M for sale. \$100 each or best offer.

Randy, W3PCF. CONTACT ME AT: TANKER60@gmail.com

We Need Your Help

The club has been looking for help with public relations, but no-one is stepping up. Maybe we need to explain a little more about what we need.

At some point we hope things will get closer to normal and we will be able to have regular meetings and events. Wouldn't it be great if we could get that information to those in the area that might be looking for a club or event to attend? Nothing fancy, we just want to send the information to the local Newspapers, TV Stations, and Radio Stations. We will provide a list of emails to send the information and samples of what to send.

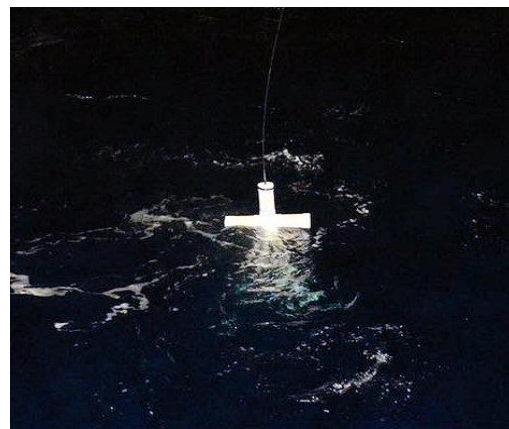
Basically, that will be a monthly email announcing our meeting and the occasional event such as our Annual Special Event station at the Boardman Car Show. Can you give us a hand? If so please let any Officer or Trustee know.



High School Marine Buoy Transmitter

Now Active on 20-Meter WSPR

Phil Karn, KA9Q; Randy Standke, KQ6RS, and members of the Mount Carmel High School Amateur Radio Club (MCHSARC) in San Diego have constructed and deployed an amateur radio marine buoy in the Pacific. The buoy, which transmits *WSPR* on 14.0956 MHz USB, has already been heard around the continental US, Brazil, Hawaii, Japan, Costa Rica, Australia, and South Africa.



“Over the past year, Randy and I have mentored the MCHSARC in designing and constructing a simple marine buoy that was deployed from the RV *Sally Ride* [on July 16], about 700 kilometers off the coast of southern California,” Karn said in a **post** on the AMSAT Bulletin Board. “It is up and transmitting *WSPR* on 20 meters using the call sign KQ6RS, and is being received all over the US and into Canada and Brazil.” Karn is **blogging** about the project with updates.

The electronics are the 20-meter *WSPR* version of the WB8ELK “pico tracker” that has been flown on long-duration balloons. “We removed the solar panels and substituted 21 ordinary alkaline D cells, wired to supply 4.5 V,” Karn explained. “We estimate battery lifetime will be 6 months.”

Karn said that the **project** made use of everyday hardware. The buoy — essentially a spar buoy — was constructed using a 5-foot section of 4-inch PVC pipe, with sufficient ballast in one end of the pipe to permit it to float vertically in the water. The top is closed using a sewer pressure test plug, which has a bolt in the center that acts as a convenient feed-through and antenna mounting point. The antenna is a stainless-steel CB whip with a matching network.

“We use the sea as a counterpoise, but to avoid direct metal/sea water contact, we lined the inside of the pipe with copper tape to form a capacitive connection,” Karn said.

During initial flotation testing, the project team found that the ballasted pipe alone was remarkably stable in pitch, roll, sway, and surge, but oscillated a lot in heave — i.e., up and down movement. Cross arms were at the water line to add drag in the vertical direction, to counter the issue.

“It wasn’t our intent to mimic a religious icon, but that’s where the physics went,” Karn said. Because sea water was required to tune the antenna, Standke floated the buoy off a dock in Mission Bay.

“We tried to make this thing as rugged as we could,” Karn recounted, offering his favorite saying to the students: “The sea always wins in the end, but we can delay that long enough to be useful.” Deployment was to be from a NOAA vessel in April, but the trip was canceled due to the COVID-19 pandemic. Standke secured a trip on the RV *Sally Ride*, a research vessel operated by Scripps Institute of Oceanography.

The first reception report was on July 16 at 12:52:30 UTC from grid square CL89eu, although the current carried the buoy east into CL89fu at 20:32:30 UTC. The buoy (KQ6RS-1) can be tracked on the **APRS** and **WSPRnet** sites.

Karn said the project team is already planning its second buoy, which may include two-way links, satellite tracking, and sensors.

Station Loaner Program

If you're a new ham/newly upgraded and want to get on the HF bands, MVARA has a loaner program for club members. The club has two complete stations with radio, power supply, microphone, CW key, and antenna tuner. All you need to do is supply your own coax, antenna, and keep the equipment in good condition while you have it.

Loan period is up to 6 months. However, you will be responsible for returning the station temporarily for use during Field Day weekend in June.

With the new ARRL proposal, it looks like even Tech class amateurs may soon have more phone privileges on some of the HF bands. Contact MVARA at our email address: mvara.W8QLY@gmail.com

Got Pictures/Video?



If you didn't get to participate when the MVARA joined the Boy Scouts to celebrate the 100 year anniversary of Camp Stambaugh, be sure and check out the audio visual presentation of the on our home page at www.mvara.org You'll feel like you were part of the festivities.

The MVARA can use your pictures and videos of club activities. We would love to have pictures and or video of JOTA, the Christmas Parade, Santa Net, etc. You can submit an edited video file to us or we can put together and edit your raw files. Email your pictures to MVARAVoiceCoil@gmail.com. Video files will be too large to email, so contact Dave kd8nzf@zoominternet.net or Rich kb8gae@yahoo.com to make file transfer arrangements.



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Submissions must be received **no later than the 24th** of the month prior to the month of issue, unless otherwise specified. **Submissions should be in MS Word format or ASCII text—no PDF, please!** Material received after the deadline will be used in the next month's VOICE COIL if it is still current and /or newsworthy.

Swap and Shop Policies

Swap and Shop listings are open to all licensed Mahoning Valley Hams, based on space available—you don't need to be an MVARA member. Please submit your list to mvara.w8qly@gmail.com **AND** mvaravoiccoil@gmail.com for placement in both *Voice Coil* and website. MVARA assumes no responsibility for transactions made or inaccuracies in ads. You are responsible for checking your ad and notifying us of any corrections. Ads will run for two consecutive issues unless we are notified otherwise.

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