

RADIOWAVES



MARCI Newsletter

FROM THE PRESIDENT: I was just reading my comments to you from the May 2020 edition of RADIOWAVES. It seems some of us (at least me anyway) were getting a little stir crazy due to the curfews, confinement, and all the other trappings of the pandemic early last year. Much has changed that we should all be a glad about though we are not totally out of the woods in this. And as I have said before, I hope that one and all of you will take advantage of the availability of a COVID-19 vaccine.

Very much like last year we are about to complete another election for the officers of the Manatee Amateur Radio Club. I hope that you took the time to vote. Hopefully, next year at this time we will be having our May meeting to elect officers in person just like 'the good old days'. Unfortunately, Kemp Mednick, KM4PYH opted not to return as treasurer for another term. On behalf of myself, the BOD, and I'm sure you, I would like to thank Kemp for his service to MARCI the last two years. I'd also like to thank the three members of this year's nominating committee, Cindy Wiggins WB4ZBH, Bob Borsari W4WRS, and of course Cecil Fox KF4CSM for their help in the nominating and election process for 2021.

In May of 2020 and in even in the months that followed I encouraged members to submit a photo or photos of their ham shack. A few have bravely done so but surely there are so many more of you that are proud enough of your station (be it small or large) and willing to show the rest of us your 'operation'. I have sent the editor a recent pic of mine for this issue so perhaps he will include it. Please share with the rest of us what your station looks like!

Tuesday May 4th, is the date of our next General Membership Meeting which takes place via ZOOM at 7:00pm. The LINK TO THE ZOOM MEETING IS ON HOME PAGE of THE MARCI WEBSITE. <https://www.manatee-arc.org/> We'll have an interesting presentation that meeting being provided by Tim Gardner, KO4IHP. And remember we are not having a meeting in July. There will be some time therefore, to consider topics that YOU might consider worthy or interesting for one of our future meetings in the 4th quarter of 2021. Please give me some input and/or ideas on these.

I believe that the next VE Session is slated for Saturday May 15th. It is my understanding that the FCC will institute their new fees for licenses, upgrades, and vanity requests very soon. Might be a good idea to get that friend who was thinking about getting his/her ham license OR that plans to upgrade to 'get on their horse'. And speaking of the FCC, their upcoming plan regarding RF Safety has been met with much discussion and just as much misinformation. Tim Hostetler, WD8JTR contributed a link to some real information which you will find in this issue of RADIOWAVES on the subject. Thank you Tim!

I hope to see all of you on Tuesday night May 4th during the General Membership Meeting. Take care all and PLEASE...tell someone that you love them.

Mike Ryan, K4CVL mryan001@tampabay.rr.com



FROM THE EDITOR: May is here and the sunspots are back. If previous cycles are anything to go by, the next few years will be FUN!!!. It is time to make sure that your antennas, radios and coax are up to snuff along with all the other items in your radio room. As I mentioned last month as well, hurricane season is getting closer every day so also check out your HTs and batteries and personal gear. For me, because I have not yet succumbed to FT-8 or other digital modes, the last few years have been very quiet on the HF front. I trust that situation will improve in the coming months and years. FYI on the model railroad front the layout is being downsized by removing Phases 3 and 4 and replacing Phase 3 with a bookcase and another chair. The bookcase will provide room for my growing railroad memorabilia and the recliner will add to the seating in the room. Interestingly enough, the other day I was asked by the National Model Railroad Association if I would be amenable to doing a video talk about the resistance soldering rig I built a few years ago. I got the idea from a couple of model railroaders who had written about such a device so I guess the story has now run full circle.

I have not abandoned amateur radio, in fact I will be subbing for Jack Ham over the summer as one of the net control stations on the Tech Net on NI4CE.

Home Brewing
By Geoff Haines N1GY

In years past, we have talked about several aspects of building accessories and projects for your ham radio station. We have demonstrated some of the projects themselves, talked about soldering techniques, and the process of deciding which items are better purchased than built.

This year, I thought we should devote some time to the sources that you can use to get the parts you need to complete whatever device you decide to build. Some are quite obvious; others may not so readily fall to mind.

It probably is easy to figure that if you are building an antenna and the design calls for the use of PVC pipe, you head for Home Depot or Lowe's or a similar building materials store. What you might not think of as quickly is that those places are also a good source of the aluminum and or wire you will need to complete the antenna. Most big hardware and building materials outlets have an area in or near the hardware section that has various sizes and shapes of aluminum, steel and brass. The hardware department also has rope, thimbles and clamps to enable you to hang your latest creation between two trees or masts. The electrical department can sell you all sorts of wire in many gauges. They can also provide the exterior grade electrical boxes and conduit that many hams use to create baluns and coax runs I can think of several antenna designs that I have seen and/or constructed in which almost everything used in the project came from Home Depot or Lowe's.

Most new transceivers, rightly or wrongly, use a form of the standard RJ-45 or RJ-12 crimp-on connector to connect the microphone to the radio. If you go to the usual source for cables with these connectors on the ends, you often get a severe case of sticker shock. In one well known retail Radio store, a 7 foot CAT-5 jumper will cost almost 20 dollars. Such things are much cheaper at the home improvement store. Of course if you really want to save money and can afford to buy in lots of 10, go on line to one of a number of e-tail stores that will sell you the very same cable for as little as \$1.39.

Should you wish to obtain a microphone selector for your ham shack, you can go straight to MFJ or West Mountain Radio and pay close to 80 or 90 dollars for their very nice devices. Or you can pick up an A-B Data Switch, that little box that people used to switch one printer between two computers back in the days before wi-fi and USB. Believe it or not, they are still available brand new at various computer dealers for from \$12 to 25. Or you can find them here at the ham fest for around \$2 or less. By re-equipping the box with connectors suitable to your radio like RJ-45 or RJ-12, or even the older 8-pin round connectors, you can have a mic selector for much less. A little care in designing the front panel and no one will know that you built it yourself, until you proudly tell them, of course.

Another source for materials might easily be one of your neighbors. As I drive around my town, I see a large number of TV- antennas on 15 to 20 feet of masting. I also see that many of those same homes have a satellite dish from DirecTV or Dish Network. Some have that little white box

indicating they are on Verizon Fios. I am sure many more have cable service of one form or another. Any of these means that that TV-antenna is redundant. Often, a pleasant offer to remove the antenna and mast in return for those same materials will get an affirmative answer. TV antennas are great sources for ham antenna elements. Masting, if not too rusty, can be cleaned up and repurposed to carry a VHF/UHF antenna at your house.

Most of us plan to buy our coax connectors and similar items here at the ham fest. Or perhaps we make a list for that road trip to Orlando or Miami. But what do you do when you need that special item at 9 PM on a Friday night in your preparation for a public service event Saturday morning. Well, when that happens to me, and it often does, unfortunately, I head to the local truck stop. Truck stops are usually open 24-7 and normally have an entire wall devoted to CB gear. An SO-239 stud mount for an antenna is the same whether you buy it at the ham radio store in Orlando, or the local truck stop. PL-259 connectors may not be up to the quality standards that you will find here at the ham fest, but at 9:30 at night, it will get you through the weekend.

Another frequently used accessory is the external speaker. The main purpose for an external speaker, contrary to popular opinion, is not to materially improve the quality of the audio coming from your radio. Save that old wives tale for the entertainment center with the 60 inch TV. The real reason is to aim the audio toward you, not the ceiling or the floor. Again, one can spend various amounts of money on a speaker "designed for two way radios", or you can clip an old set of computer speakers in half and remove the amplifier in the one with the power cord and get two matching speakers that will work just fine with your Yaecomwood 99000X.

Once you get a few simple projects under your belt, often the thoughts turn to bigger plans. Sometimes you need an enclosure for your latest device. Have you priced electronics enclosures lately? I think that the enclosure may cost more than the components you put inside it. Luckily, there are a number of alternatives. Remember, the mic selector I talked about earlier, that same A-B Data Switch that you can pick up for a couple of bucks at a ham fest can also supply the enclosure for any different devices. If you need something bigger, there is always the sheet metal available at the local home improvement store. With a little cutting and bending, you can easily fabricate whatever size enclosure you need. A little paint and labeling and no one will be able to tell your work from the pros.

If you need a plastic enclosure, there is a material available from the larger sign makers called ABS sheet. When I talk about sign makers, I am not referring to the shops that can decal your car or make a "For Sale" sign. I am referring to the businesses that make signs for hotels and retail stores. If you look in the phone book and call around, I am quite sure you will find a sign maker who will be willing to sell you a full 4 x 8 sheet of 1/8" ABS. He may even give you some scrap ABS for nothing. This stuff is great. It can be scored with a utility knife and snapped free. You can cut intricate shapes with a saber saw as long as you cut at slow speed. The ABS is easy to drill sand and form to whatever size enclosure you need. It can also be used if you want to build console fronts for the radio room or just a front panel for another enclosure. I have split the cost of a full sheet with a fellow ham and both of us got a 4x4 sheet of the stuff for around \$25 each.

Speaking of plastics, if you need insulators for that wire antenna you are going to build, why wait for the opportunity to buy ceramic or plastic insulators? PVC pipe is easy to cut and drill and works just dandy for insulators or rope tensioners and many other things. PVC pipe can be painted to minimize the effects of the sun if you are using it outdoors. I have seen several short tower designs, including an article I wrote several years ago for QST, that use PVC pipe in tension or compression to create a self standing 15 to 20 foot support for a temporary antenna set-up. The material can be glued together or it can be secured with self tapping screws or hose clamps. If it is designed to disassemble easily it can be stored wherever it is convenient for you until the next time such a support is needed.

Another "plastic" source that is mentioned frequently in articles in QST and other similar magazines is a simple cutting board. Found at places like "Bed Bath and Beyond" a plastic cutting board is a great material for insulating needs for antennas and many other projects. There is a material found in boating stores called "Starboard". This is very similar to the cutting board for our purposes, but is somewhat more expensive. It comes in many thicknesses and widths, so if you need something bigger than the cutting board that may be the way to go.

A device that is often part of a home-brewed project is a battery. Building an external power source for an HT is a favorite project for many involved with ARES or other public service groups. One can go to a battery store and pay around 25 to 30 dollars for a very nice 7 AH gel cell battery.

You will also need to buy a specific charger for that battery as well for another 20 to 30 dollars. What if I told you there is a source where you could get that same battery for about a dollar or less? Check with your local alarm company. They swap out the back-up batteries in their alarm systems every two years whether they are bad or not. I went to a local alarm dealer and came away with 10 + batteries for \$5. A simple load test determined that 8 out of that number were just fine for use with my HT and though the others were not in the best of shape, I still got 8 batteries for less than 63 cents each.

While still on the subject of battery power, sort of, you may be familiar with the concept of the self contained radio station. That is, a transceiver and power source that can be used anywhere for some period of time without any outside power. There are a number of rather expensive products out there that propose to fill that requirement. An alternative solution is to design your own around an inexpensive tool box available almost anywhere. Mine came from Home Depot, but many stores carry similar tool boxes. By using some aluminum angle from the same store, and some ABS sheet I had at home, I was able to “roll my own” emergency radio for almost nothing. I already had the tool box, the ABS, the radio and the batteries. All I had to buy was the charger and some aluminum angle.

The antenna for this unit was also home-brewed, and the mast came from the leftovers from another mast project. Everything but the mast and the antenna fit inside the box. Mark the box well with your name and call and phone number if you expect to get it back after a deployment.

I think the main idea I want you to carry away is that there are many solutions to any given need. By thinking with an open mind and looking for adaptable materials in non ham radio specific sources, you can not only build exactly what you need but do it for much less than if you purchase that solution commercially.

This information was provided to us by TIM HOSTETLER, WD8JTR.

Subject: RFI Power Density Calculator

Here's a handy guide and calculator for determining compliance with the latest FCC ruling regarding RF safety calculations. The calculator is based upon open source code.

https://hintlink.com/power_density.htm?fbclid=IwAR1dV4TXs5AdebqKtgAydqgVQI53nn5jxEXY71k1vaHKogon9ploLKfmkvs

QST MAY 2021

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FLEX	REMOTE	YAESU

SWAP / TRADE / SELL : If anyone has gear they wish to sell or donate, please send the particulars to the editor for inclusion in the next issue. The want or sell ads are free so please avail yourself of the service. Note: this list is getting a bit long in the tooth, so if anything here has already been sold or is no longer on offer, please let the Editor know so it can be removed.

FOR SALE:

Offer to build: Custom extension cables for any remote-able radio such as the Yaesu FTM-300, 350 etc.

PowerPole Power Distribution Blocks in 4+1, 6+1, and 8+1 sizes \$10, \$15, \$20 each respectively Can custom build to suit.

Foot operated PTT switches brand new from MPJA wired with 3.5mm mono plug on 10' cable. ¼" adapter available if needed. \$10

IN ADDITION: I have more parts and components than I will ever use, so if you need something, a transistor, a plug, a jack, etc etc. call me first, I will give you a great price (as in no charge).

Call Geoff at 941-447-8579 (cell) or 941-752-3696 (home)

For Sale: 2 Hand Held transceivers.

Kenwood TH-K2AT 2M transceiver with English Manual and Spanish Manual.

Kenwood TH-G71 Transceiver. 2M/440 Mhz. No manual.

These are nice small HH which takes 6 AA Batteries (easy to change in a power out situation). Last used in Simplex mode between 2 vehicles. Worked great.

These have been replaced with 2 FTM-70.

Price 2 for \$100.

Contact WB9KVD at jham58@tampabay.rr.com or 941-567-6716

From Bill, N9US:



The AEA model VSB-70 is a Fast-Scan Television (FSTV) transceiver that operates on the amateur 420 to 440MHz band. The transmitter features two local oscillator crystal-controlled channels and an output of one watt PEP on sync peaks. Receive operation can transceive or use variable

tuning. In transmit, baseband NTSC video and audio are converted to Vestigial Sideband (VSB) video with the FM audio subcarrier in the 70 cm band. This is the same format as used by analog broadcast television. Video cameras, Camcorders and video cassette recorders with video and audio output jacks can be used to generate the baseband video and audio for transmission. A separate front panel microphone jack may also be used for audio input. Either color or black and white video may be used. Television channel 3 or 4 may be used to monitor your broadcast signal. If you live in an area where channel 3 is used by a commercial television station, your VSB-70 must be configured for channel 4, and vice versa. A standard color or black and white television is used for reception. The same television is used for monitoring your transmission. The VSB-70 uses a GaAs FET preamplifier which provides for a system noise figure of less than 1.5dB. Either crystal-controlled or VFO receive tuning may be selected. In addition to the video source and television set, a 13.6 volt regulated power supply and 70cm antenna are necessary. AEA also offers the RLA-70 linear amplifier with MPS-100 power supply and the 430-16 antenna to complete your ATV station. To transmit, an FCC amateur Technician or higher-class license is required.

Bought for \$309 from AEA in 1992. Works great! Best Offer



Ameritron 5 Way Antenna Switch RCS-8V

RCS-8V HF to VHF/UHF Remote Coax Switch

Ameritron's Remote Coax Switch lets you remotely switch up to five separate antennas using one inexpensive small control line (like standard telephone wire). Eliminate a tangle of troublesome coax and have a simple and neat installation with just a single feed line.

The **RCS-8V** consists of two units, the weatherproof switching box that mounts on your tower or mast and the control unit that's placed at your operating station.

VSWR is less than 1.2 from DC to 250 MHz and less than 0.1 dB loss at 150 MHz, great for the HF/VHF/UHF operator.

It handles over 5 kW below 30 MHz and 1 kW at 150 MHz. You can ground unused positions or leave them open.

The indoor control unit is all metal to prevent RFI and TVI. It also has LEDs to indicate the antenna you've selected. A Lexan scratch-proof panel has a markable surface for labeling your antenna positions.

RCS-8V operates from a 120 VAC power source. Use any 6 conductor control line (not supplied) and allows safe operation with 14V control voltage.

Specifications

- Number of antennas positions: 5
- Loss at 150 MHz: Less than .1dB
- VSWR: under 1.2 to 1 from DC to 250 MHz.
- Impedance: 50 ohms
- Power Capability: > 5kW Watts below 30 MHz, 1kW at 150MHz.
- Antenna select time: 50 ms.
- Power requirements: 120 VAC @100mA, AC adapter supplied
- Connectors: Teflon® SO-239
- Control Box: 6" x 6 1/8" x 2 1/4"
- Switch Box: 5 3/8" x 7" x 3"
- This one modified to add remote-controlled relay to permit **switching between unactivated ports to ground or floating. Makes big difference (sometimes) on received noise level. Came off my tower in Illinois**
- **Current MFJ price \$229.95 Best Offer**

Heathkit HA-14 “Mobile Kilowatt” Linear Amplifier

- The **HA-14** amplifier uses two 572B power tubes in parallel in a traditional grounded grid configuration. The matching power supplies are solid state. The amplifier is a small and affordable home KW that works very well in fixed station service. Perhaps more of them are used fixed than mobile. Model: Linear Amplifier HA-14 - Heathkit Brand, **Heath** Co.; Material: Metal case : Shape: Tablemodel, Dimensions (WHD) 12.25 x 3.25 x 10 inch / 311 x 83 x 254 mm : Notes: Heathkit HF-Amplifier HA-14. Grounded grid linear power-amplifier for 80 to 10 meters HAM bands. Driver power max. 100 watts, output power abt. 600 watts. My friend George Ulm, W9EVT, claims to have run one of these from his MOTORCYCLE! (Crazy as he is, I can believe it!). Check out his radio collection on his QRZ.COM page!



Have 2 of these. Sold 1 for \$350 in 2010. Best Offer

Heathkit MODEL HP-24 AC Power Supply for HA-14 Linear

Material Metal case

Shape Tablemodel,

Dimensions (WHD) 9 x 4.75 x 6.75 inch / 229 x 121 x 171 mm

Heathkit Power-Supply *HP-24*.

Notes AC power supply for SSB linear power amplifier [HA-14](#) (80 - 10 meters HAM bands). Can be wired for either 120 or 240 VAC input. Output: HV 2500 VDC (no load), Filament 12.6 VAC, Bias -150 VDC.

Net weight 8.7 kg / 19 lb 2.6 oz (19.163 lb)

Best Offer

ICOM AH-2 Remote Automatic Antenna Tuner

This tuner was specifically designed to interface with ICOM transceivers using the CI-V interface. It can be used with other rigs with some manual intervention. With an antenna 12 meters or longer, this tuner will work all bands from 160 through 10 meters. To minimize interference to other stations, it transmits just 0.3 watts while tuning. Maximum input power is 120 watts. It has a built-in memory capable of storing tuning information for 8 different frequencies, which can be called up in less than 1 second. Tuning time for non-memorized frequencies is 2 to 4 seconds (20 seconds maximum time). It has both THROUGH (By-Pass) and TUNE modes. It comes with 100 feet of RC-6 six conductor control cable to connect between the control unit and the remote tuner.



Best Offer

MFJ-1026 HF Noise Canceller

Frequency Range: 1.5-30 MHz

Phase Reversal Switch: Yes

PTT Keying Input: Yes

Keying Connector Type: RCA phono jack

Width: 6.500 in.

Height: 1.500 in.

Depth: 6.250 in.

Weight: 1.800 lbs.

MFJ Noise Canceling Signal Enhancers are designed to reduce noise or interference, or improve desired signals, before the noise affects sensitive receiver circuits. Unlike conventional noise blankers, these units can be effective on all types of noise (QRN), as well as on interference (QRM) from unwanted signals. Noise Canceling Signal Enhancers work on all signal modes and can transform difficult receiving situations so you can finally hear, work, and log that rare DX!

MFJ Noise Canceling Signal Enhancers allow the user to adjust both phase and amplitude while combining antenna inputs. One of two antenna inputs may be connected to the transmit antenna, and the other to an external receive antenna or the internal whip antenna on the model MFJ-1026. Or both inputs may be used with identical receive antennas to create various directional patterns for optimum results. The signal output to the receiver or transceiver is the vector addition or subtraction of signals from two separate antennas, balanced and phased. This allows unwanted noise to be removed or desired signals to be enhanced.



Current MFJ Price \$239.95. Have 2 for 1 (One needs repair). The good one works great!
Best Offer

For Sale: IC-745 radio
Astron RS-35M power supply
SG 231 Smart tuner
RG213/U Coax cable, approximately 60'
Total for everything \$350
Contact rmhooie@yahoo.com

CLUB MEETING: To be a ZOOM session via the Internet on May 4, 2021 at 7PM

Monthly Board Meeting TBA (may be replaced with a teleconference)

Monthly ARES Meeting TBA

Club and Other Nets:

MARCI Info Net	Sunday 7:00 PM	146.820 – 100 Hz.
ARES Net	Monday 7:00PM	146.820 - 100 Hz.
MARCI Traders Net	Wednesday 7:30 PM	146.820 –100 Hz
David Flail, W3IK	is the NCS for the Traders Net	
Manatee Skywarn Net	Thursday 8:00 PM	146.820 - 100 Hz.

PLEASE PARTICIPATE IN ALL THE NETS ANY TIME YOU CAN. The nets on Monday (146.820) and Thursday (146.820) are logged for the Manatee County Emergency Management and create “bill-able” hours of Volunteer Participation which often results in County provided equipment for ARES. And **DON’T FORGET** about the Regional Nets on NI4CE on 145.430 and 442.950. The Eagle Net, the NTS Traffic Net is on every night at 8:30 PM. The regional Skywarn Net is on Tuesday at 9 PM, The Technical Net is on Every Thursday at 9 PM or immediately after the end of the Eagle Net should that net run a little over. Our Club Net on Sunday night is recently very poorly attended. Our club has over 60 members. Surely at least 15 Or 20 of you can take 20 minutes out of your Sunday evening to check into your own club net! The most common complaint I hear about repeaters of all sorts, local and regional, is that **“there’s no one on”**. **The old saying about “if you don’t use it you will lose it” was never truer than now**