

The SPARC NEWSLETTER

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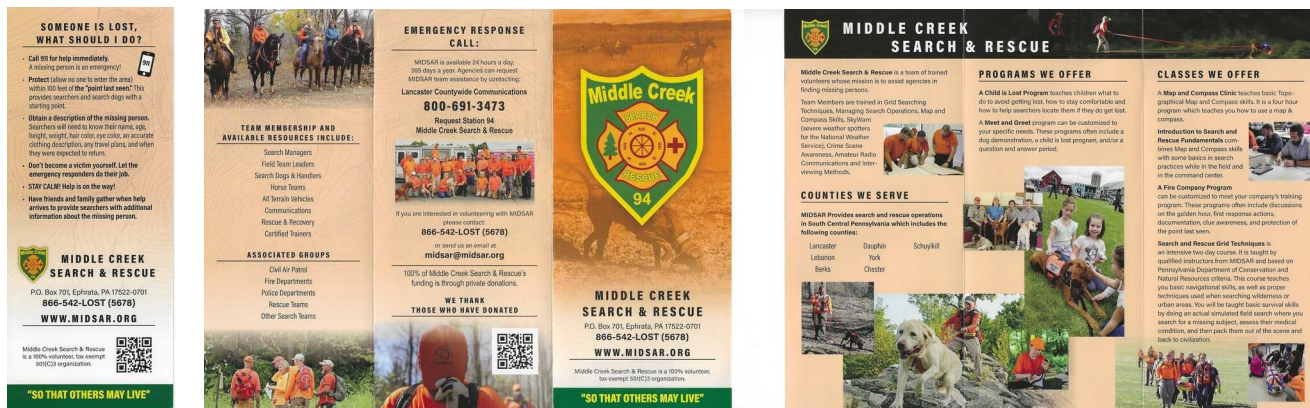
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Middlecreek Search and Rescue

by
N3FMO

The Middle Creek group did an interesting presentation on search and rescue. Here some pamphlets they distributed. I don't know why, but these things kept shrinking when I imported them. Grrr..... Check out www.midsar.org for a better look.



SO, anyways, if someone's gone missing CALL 911 straight away! It's OK! We all hope that it's a false alarm, and that is better than not.

This is more common than you may think. Alzheimer's patients and little kids can easily get lost. Kidnapping is also very real. Kidnappers prey on large crowds. Be aware.

After you call 911, try to keep people clear from where the missing person was last seen, like 100 feet or so. Too many people will confuse scent dogs. We want to preserve the missing person's scent trail. Dogs are incredibly good at finding people, but only if they are not overwhelmed with other scents.

Be ready to tell searchers pertinent data, such as name, age, clothes description, height, weight, hair and eye color, and any other information. Keep a picture of your Alzheimer's patient or little kids handy on your phone camera.

Anyway, search and rescue is something we hams may also be called up to do. Think about that. Batteries charged? Gas in the car?

AM and FM broadcast is dead.

by
W3IHM

AM radio is dead. There is nothing to hear on AM radio. FM radio is boring, too. I make my own playlists. Sometimes I stream LoFi, but who even listens to music anymore, anyway? It takes too much effort.

Things die because they are not fed. What is radio now? It is computer generated playlists with blanket target advertising, all pre-arranged and VOIP fed out to completely automated maintenance free transmitters. The world could end, and the automatic playlists would keep going until the power went off. No one would be there to cry: "The aliens commeth!" or whatever needed crying. Useless.

The soul is dead. It's soul was the people. Radio used to be live announcers, standing outside, with a microphone, in the rain, covering a car accident or house fire. It was a live disc jockey, sipping his coffee, talking about his drive in to work, while queuing up an album song. Mistakes were made. It was humans talking to humans. My dad used to tell me about listening to Orson Wells reading the want-ads. He said Wells could read anything live on the radio, and people would fight to listen. And behind every voice, was engineers and technicians, babying a tube transmitter, while fixing the stuff that was blown apart from the last lightning storm.

That is all gone. Broadcasting is automatic, efficient, inexpensive, cost effective, target marketed, researched, and completely sterile. Dead. With humans, you never knew what the announcer may say when they spilled their coffee on the turntable. You never knew when the transmitter might self-destruct or eat a tube. It was all very unpredictable. Now it's sterile, controlled, and cost-effective. This is one reason people stopped listening anymore. The human element is gone. Boring.

OK, is this true? Are the humans really all gone now? How did we get here? Is there anything to listen to now?

What does "AM" and FM mean anyway? History. Uh oh. Here is a short rabbit hole by IHM. Here we go again.

The "names" of these particular types of broadcast, one-way information and entertainment media outlets ended up being named after the type of modulation that was used. Initially, the first two frequencies, 360 meters, or 833 kHz, and 485 meters, 619 kHz, were to be used to disseminate information by radio. Speech and music was amplitude modulated on these two frequencies. So, this band was called the AM band.

Later it expanded and expanded, and expanded.... Ok, I'll stop.... Until it now occupies 530 to 1700 kHz, with audio bandwidth limited to 10.2 kHz, at 10 kHz "channel" steps. OK, some of those highway thingies are dangling on the very high end at 1710 kHz, and NAVTEXT at 518 kHz, but that's AM radio. There are occasional pushes for AM stereo, and all-digital formats, but most AM is just plain old AM broadcast. It is still here, but knives are sharpening... I hope not!

What about FM?

Later, around the end of WW2, and even a bit before, with the Yankee Network by our beloved Edwin Howard Armstrong, 2WE, there was another type of aural disseminated broadcast coming around, frequency modulation.

Wait. 2WE? OK, Ed's call was before we had all that international callsign stuff, thus giving DXCC folks something to do. I suppose he would be W2WE, now. A one by two before vanity calls? That would be an old timer indeed. He was. He cut his teeth on spark, but back to FM.

The new FM broadcast method came from some fancy technical development, developed in the mid 1930's by Ed, while working for RCA, to eliminate pesky static. AM broadcast was spreading, but had a problem. It was prone to noise. That included natural static, like lightning, and man-made, like cars and electric motors. You would be listening to the ball game, and someone would start a vacuum cleaner, wiping out the whole band.

So, the CEO of RCA, David Sarnoff, wanted something that would rid his AM radios of pesky static. So Sarnoff challenged his in-house genius, Ed, for such a device. Ed delivered FM.

Later, Sarnoff backed away from this whole idea, and derided this new-fangled FM stuff. Don't ask for something, you may get it. It turns out implementing FM would re-set Sarnoff's whole AM based empire of the air, lock-stepping to his corporate model. RCA sold transmitters, radio receivers to hear these transmitters, and sponsored broadcasts, parts and engineering education and training for said networks, all based on AM modulation.

No FM. Corporate Sarnoff was only interested in the money. So he soured on FM, even going as far as launching an orchestrated technical attack on FM modulation. Engineers at this time found it difficult to even find teaching information about FM. This persisted even into the 1970's.

So Ed started out on his own, promoting his new modulation by himself. Well, money and power won, for awhile. It also didn't end well for Ed, but that's the FM Yankee Network, another story, for another time.

Anyhow, this new type of FM radio initially occupied 42 to 50 MHz, in 200 kHz steps, with 75 kHz deviation, so the stations occupied 150 kHz bandwidth, with audio bandwidth limited to 15 kHz. This new modulation scheme utilized frequency modulation instead of amplitude, so naturally this band was called FM. It delivered far superior fidelity and signal to noise ratios, and was much more immune to static.

Then comes WW2, new technologies, a standard type of television, and the reshuffle of the FM band to 88-108 MHz. This is the FM band we have today, with various digital modulation schemes also permitted, to cram more program media onto a single FM carrier.

Whether AM or FM, broadcast media is all the same business model. It is disseminating information and entertainment, paid for by advertisements, by luring you to "tune in" and listen. The technologies behind this may change, but the business model doesn't. That's why YouTube has advertising. Same model.

OK, so that is some history.

OK, but what is there to listen to on AM and FM now? Well, here is a few things still worth tuning into. Did you know there are Cuban time stations that can be heard sometimes on the AM broadcast band? Try tuning in Radio Reloj at 570, 790, and 950 kHz in the evening winter sometime. The tick-tick of a clock, with "RR" CW id is all you may hear, although there is a Spanish announcer talking.

Interested in sampling entertainment for an oppressed people? Cuban Radio Encyclopedia at 530 kHz plays some funky erie music. Groove to that communist utopic sound! The signals are making it all the way up the coast also. Neat.

I wonder when “RR” and encyclopedia are going to disappear? Cuba is having hard times now.

So tune in the bottom of the AM band sometimes, like 520 kHz, and maybe you will hear a digital warbling Navtext signal at 518 kHz. I have decoded them many moons ago on my MFJ-1278 and PC XT.

Although these are disappearing, there are still a few NDB’s around at up to 530 kHz. The best time to listen is just before sunrise, so if you are an early rising commuter, or maybe an incredibly late night owl, tune the bottom end of the AM band while you drive, to see what you may hear. I have heard some around 520 kHz, coming in, on one of my early morning commutes.

The upper end of the AM broadcast also has those highway beacon signals. In the morning, I usually can hear WQFG689 on 1710 kHz from Hudson, NJ often. You also may hear pirates here from time to time. There was one pirate up here even in Lancaster for a few years, but it’s gone now.

OK, that is the ends of the band, but what’s in the middle? There’s regular DX. AM DX for me is to hear as many “K” station calls as possible. No, KDKA does not count. I am still seeking KFI in LA.

Here are some regulars that come to mind that I have heard lately. There is 740 CFZM in Toronto that plays oldies. There’s 650 WSM with the Grand Ole Opry. There’s WLS in Chicago for a Cubs game, WLW in Cincy for a Red’s game, WFAN in the City, WSB in Atlanta for the Braves, WJR in Detroit, WHAS in Louisville, 900 XEW in Mexico City running 100 kW, WBZ in Boston, etc. I can go on.

I still listen to AM radio at night. KSL is 1160 in Salt Lake is as far west as I have managed in the car. Sure, many of the stations are carrying syndicated robot stuff, but listen for local ads. They give a bit of local color. Also hunt around for local sports. Nothing like getting the farm equipment ads for a KS 1000 watter.

What about FM? Well, you know those little adapter things you can hook your cellphone to your car with by means of the FM radio? They transmit usually on 87.x, the low end of the FM band. I have heard conversations on the highway that were quite entertaining while driving along the way somewhere. Sure, the range is short, but if you are going the same direction, you can listen in to people’s phone calls and fave musics.

The low end is also where the pirates dwell. There are all sorts of FM transmitters on Ebay that someone could buy now, and put up a pirate for awhile. It happens, until they get caught. Uncle Sam doesn't seem to care about CB, and us Hams are supposed to take care of our own, but put up an FM pirate, and they will find you in short order.

Then there is the low power FM stations on 88.x to 89.x that are interesting. Some even have live announcers, all too rare nowadays. This is home to the ubiquitous college station. My son does a live radio show on the 100 watter, WFNM, 89.1, on Saturday nights at 7 PM. There also is another 100 watter, WWEC at 88.3 in Elizabethtown. I like to see how many of these 100 watt radio stations I can hear. Live broadcast means, microphones being bumped, sneezes, wrong songs cue'd, laughing, giggling, etc. Bask in that straight audio, with no compression, expansion, etc. A 100 watter won't go far, though. You probably need a yagi to get serious.

Meteor pings and sporadic E-skip are also a thing. I have heard FM DX from Texas, W.Va, SC, and Va. If six is open, check out FM broadcast. Check out the FM DX ID on the web streams.

Well, broadcast radio is still something I like to spend time listening to. I hope it does not just go away.

Aisle of Shame

by
W3IHM

I thought I would spend some time showing some of the absolute garbage parts that the current industrial complex is foisting off on us poor tinkerers, home brewers, and fixers. Here's some examples I have come across. If you come across anything, let me know and I will add it here.

Here is an interesting power supply I came across.



Take a look at this label. It says the input is 100-240V at 50-60 Hz, with current being 0.5A for 100 VAC, and 0.3A at 240 VAC. Let's take a minute with these numbers:

$$P=IE, = 0.5A \times 100VAC = 50 \text{ W}$$

The output is listed as 5VDC at 2 A, so the output is:

$$P=IE = 5 \text{ VDC} \times 2 \text{ A} = 10 \text{ W}$$

So the efficiency is:

$$10W / 50 \text{ W} = 20\%$$

I thought switching supplies were supposed to be efficient. I suppose the CE IP22 and all the other testing symbols are just as meaningful as the rest of the label data. I suppose Photoshop and a thermal label printer is all one needs to gain type acceptance now.

Here's another. I wanted a good stout pushbutton, so looked on fleabay for something that looked like it could be good. I found one that looked exactly like some other bake-lite ones I had, with black bake-lite bodies and buttons. These buttons have lasted for 40 years, but I ran out, so I needed more. Great. They looked fine when they arrived, and I spent some

time drilling holes and installing them in a radio, except that when I heated it up this happened:



The button melted immediately and the terminals that I tried to solder the wires to melted themselves free. This thing was made of some low temperature black plastic and melted as soon as the contacts got hot.

I don't know how I could have used them, maybe crimping wires onto them? With the previous buttons, I soldered a wire to the case to prevent static discharge. When I tried to solder a ground wire to these new buttons, this happened:

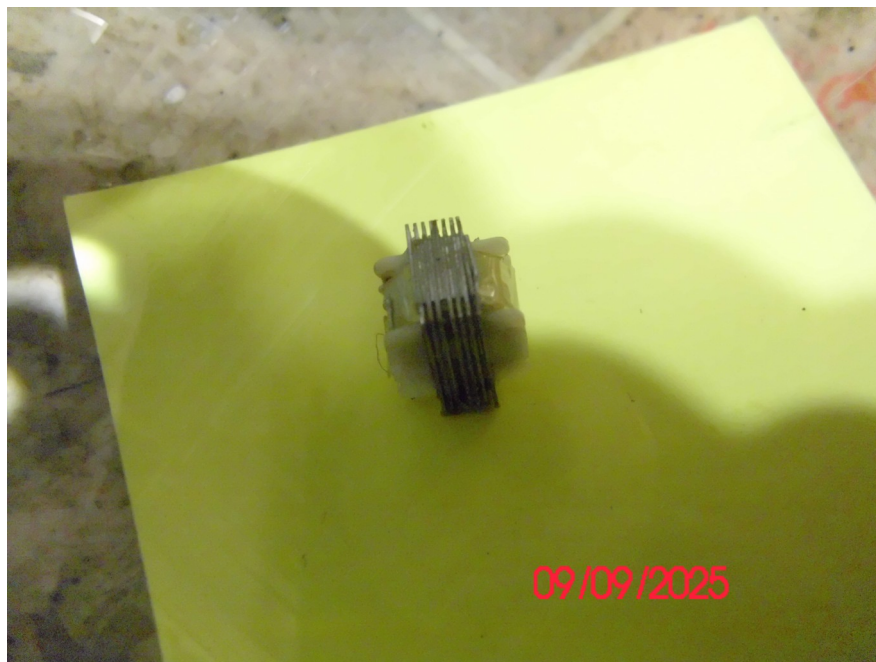


The whole thing turned to liquid. I think the plastic that was used to make these switches is old styrofoam cups or something. There was no spec sheet when I bought them, no mention of maximum temperature, or styrofoam cup types. Vivia recycling! Psst. More landfill junk. Useless.

I also had trouble with a spanking new microphone that seemed to have some sort of permanent distortion, no matter what I did to the element, case, radio, or anything. This was a brand new mic, so I did not suspect anything could be wrong with it. Was RF getting into

something?

The element sounded fine, when I hooked wires to it directly, The switch also ohm'ed out nicely. The only thing left was a wad of yellow tape that held the matching transformer. When I took the thing apart, I found the matching transformer had a problem. Look at this:



The iron core actually was purposely assembled without all the pieces in the “E - I” core stamping. Look. The “I”’s were all deleted. No wonder the microphone was distorting. This partial core was saturating and making the microphone distorted and lossy, even with normal voice levels. Ridiculous.

This was a real pain to diagnose. I had to peel away lots of tape and dissect the mike completely to trace this problem. That is hours wasted on new parts being junk. Viva Recycling! More landfill. Well, at least the case looked nice and shiny.

The cost of labor finding this problem far exceeded the cost of a new microphone, so we are getting to a point where we will never find out why something doesn't work, and what needs replacing. Manufacturers are hiding defects specifically to deceive us buyers. Owch!

Ordering a new replacement mike may just cause yourself a headache, and you will never know why. You will never know why something does not work because it will cost too much for anyone to find that out. We will all get to a point where if it distorts or whatever, send it back, and try again.

Then we are at the mercy of the people refunding the money.

This makes sense, though. When we push our parts makers and vendors to ship things at the absolute lowest possible cost, we ultimately end up with useless crap, eventually.

It's not just parts, but also our nifty ham radios that are made of them. Some of the newer rigs out there are built to the cheapest, un-fixable levels possible. The manufacturers know that the ham will buy the cheapest unit with the most features. Can you see where this ends?

Radios like Baofeng UV-3's already demonstrate this. These rigs are just cheap throw-away commodities. Landfills need fill, I guess, and it keeps the wage slave workers busy, so that is something. At least the radios they send us poor slobbs will work for awhile, for now.... I usually buy a new one each Dayton hamfest. It lasts about a year or so before something breaks. It's a consumable.

So be careful, when you select “..sort by price, lowest to highest”. You might get just what you paid for.

Free Stuff

by
N3FMO

Do you want a chair for your shack? The club has been blessed with extra armless secretary roll around chairs. These need a new home. First come, first serve. The chairs are armless, not the secretary.



Meeting Night

Like most clubs, there sets in a sort of monthly pattern of meetings, etc. Like, for SPARC, the usual average monthly general membership meeting is held the fourth Tuesday of the month, June the 24th at 7:00 PM, at the Clubhouse. Sometimes these things change, especially in the winter. Why are you looking at this newsletter for such information? Go to K3IR.org and check the calendar tab.

License Test Sessions

Want to upgrade your license? How about get a license? You will need one to be a ham operator. There IS a test. You are required to know something. It's not just a \$\$\$ thing. Demonstrating that you indeed know something is another matter altogether.

So you will need to study some materials. There is plenty of on-line information to help you get your license. Ask us. We are here to serve. Go to k3ir.org and ask for help.

Usually, testing is conducted at the SPARC site on the first Tuesday of every month. The fee to take the exam is usually \$14.00 payable on the K3IR website or in person, cash or check only. Go to K3IR.org and check the calendar tab to make sure.

If you do not already have one, go to fcc.gov and register for a FRN (Federal Registration Number). You will need this to interact with the FCC.

You can also pre-register to take the technician test, or upgrade, at Hamstudy.org. There is also a link on the K3IR web site to follow. Check the k3ir.org website for the latest in fashionable ham test news.

Upcoming Hamfests

Well, you will find some hamfests down south, where it's still warm, out west in the desert, where it's still warm, and in the upper midwest, where it's freezing, but it's not "that cold". There are none around here, though.

Looking For Volunteers

SPARC currently has 131 "active" members on the roster. We have a lot to offer to our members. At this time we have a dedicated group of hardworking volunteers who keep the site running. Some say this is typical with most organizations. I don't think SPARC should be "typical" We need more real active members. Jobs range from the highly technical to the mundane but ALL are important. Please look at the list below and see if there is a place for you.

IT Team

Tower climbers and ground help

Operating building maintenance and cleaning

Operating building equipment maintenance and improvement

Porta Potty cleaning (not Pumping!)

Adopt a Highway crew

Elmers and Elm'ettes

Hamfest help, planning, etc.

Meeting programs and talks

Antennas! ...always more, bigger, higher.

Someone to take the trash home and pitch it when it's full.

Someone else to either eat or toss the old stuff in the fridge.

Someone to put the 6 meter beam up on a rotor.

Trivia:

What voice mode dominated the 2 meter band before the 1970's, including repeaters, auto-patch, remote bases and relays?

(Answer next month.)