



WELCOME FROM THE PRESIDENT!

Welcome to the Spirit Mountain Amateur Radio Club and thank you for viewing our fourth monthly newsletter! The month of July was special as we celebrated our country's independence and had some fun while doing it. Some club members participated in the 13 Colonies Special Event, the IARU HF World Championship, and the Flagstaff Hamfest.

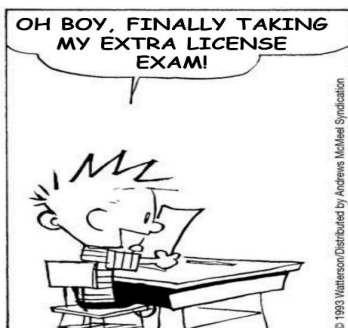
Although there wasn't a lot that happened this month, we were still able to use this time to think about future events, relax a bit post-Field Day, and recuperate to get operating again. With the high temperatures hitting our area and a large section of the U.S., we want to make sure to remind everyone to stay hydrated, cool, and indoors as much as possible to reduce heat exposure and the chances of heat-related illness. Additionally, with monsoon season coming (hopefully soon), think about your antennas and how they could be affected in a storm. Will it blow down? Will excessive heat damage your antenna components or the coax? Can water get in? Is your coax weatherproof? These are the kinds of things that we need to consider while living in the desert.

For the months of August, September, and October, keep in mind personal/family safety, hydration, heat (and its effects), and equipment safety. As we've seen previously, things can change in an instant and we all want to be prepared as much as possible for different events that the world can bring upon us or our friends and family. Every day can be different, and we never know what will happen when we wake up that morning. Stay alert, keep an eye on the weather, do some research and take a class on weather spotting, and overall, be in the moment because that moment may never happen again. Can't make the contact right now? Write down the frequency and callsign and try and later. Life is full of opportunities; you just have to take them.

This month, we have a few contests and QSO Parties across the country. Take a look at our events calendar and see the upcoming events to stay up to date on what's coming soon. Do you have an event suggestion or question about upcoming events? Please reach out to our event coordinator Tatiana Jameson [no callsign yet] at Events@SMARC.Club. For any other questions, email me, Paul Jameson WB7N at President@SMARC.Club and we'll be in touch.

Thank you for reading this edition of the Spirit Mountain Amateur Radio Club newsletter, and we wish you all the best! Stay safe, and 73!

Paul Jameson, WB7N
SMARC Club President



What is the effective isotropic radiated power of a repeater station with 200 watts transmitter power output, 2 dB feed line loss, 2.8 dB duplexer loss, 1.2 dB circulator loss, and 7 dBi antenna gain?



Spirit Mountain Amateur Radio Club KS7MC

Editor's note: I am interested in buying a new HF rig, my first one really. I want to get a nice radio without breaking the bank too much. The ICOM 7300 caught my eye so I thought I'd add this short radio review to the newsletter since the content load is lite this month. This review copied from <https://www.hamtronics.com/best-hf-radios/> SMARC Editor Mark AE6MP

RADIO REVIEW: ICOM 7300

To begin with, I'm going to introduce a wonderful product from ICOM. It is not an exaggeration to say that this is the best mobile HF radio on the market. This device is impressive in many aspects, and I can guarantee that this purchase is a worthwhile investment.

First of all, I would like to appreciate the intuitive user interface of this ham radio. It might not look like it at first, but you will only need some time to familiarize yourself with this new device. The button and knob system is not too hard to figure out, with the adjacent labels' help.

Acting as the main control panel of the radio, the large LCD touchscreen is placed right in the middle. You will find any information that you need to know on this 4.3" screen. There is a waterfall display to indicate all radio frequencies, and you can tap on it to tune in the frequency you want.

There are many interesting features in this product. This device is an effective direct sampling receiver. Also, this is a decent 100-watt transmitter with up to 101 channels in diverse modes (FM, AM, RTTY, CW, or SSB). Another special thing is that you will have an SD card to store all screenshots and audio recordings.

The signal sensitivity of this HF radio is no joke. This device works well on the frequency range from 0.030 to 74.800 RX. The signals are stable and clear with little to no noise. When you're scanning different bands, the device does not fail to pick up even the faintest signals, all to ensure the best experience for radio users.

The only thing I can complain about this product is that it is a bit heavy. Having a heavy radio could be troublesome at times, especially when you need to move it around.

Pros

- Intuitive, user-friendly interface
- Packed with interesting features
- Great signal sensitivity

Cons

- A bit heavy

Regardless of one small issue, this is an HF radio that is worth every penny. This radio with strong assets never fails to deliver on the expectations. Customers are in for the best experience with this one-of-a-kind radio device.



Spirit Mountain Amateur Radio Club KS7MC
Practical, Economical, and Good Grounding For the Ham Radio Station by N6JSX

An introduction to an 11 page PDF file download by N6JSX that covers practical, economical and good grounding for safety in the ham radio station. 11/2007

Copied from: <http://www.hamuniverse.com/n6jsxgrounding.html>

"A good ground is one of the most essential parts of a solid HAM station." There are various reasons for this statement. First and foremost is for the safety of your family, home, and HAM equipment. Lightening NOT ONLY KILLS radios but can start house fires! A protruding antenna or tower into the atmosphere dramatically increases your odds of a lightening strike. Statistically however, most lightening damage comes from the AC power and telephone lines running into your home.

An understated fact of significance to HAM Radio is that a good ground WILL increase receiver sensitivity and transmit propagation. I've, personally, observed a decrease in surrounding ambient noise levels, from as much as S9 to S4 drop, on 75/40 meters when I shifted from a "cold water iron pipe 12 AWG wire ground" to a RF ground system stated in this paper. HF antenna(s) work BEST when they work against a "proper" counter-poise ground reference.

RF grounding is as mis-understood and as difficult to understand as "impedance." Both are very real, hard to measure, and cannot tangibly be seen in operation. The term that is used in RF grounding is "skin effect." In a ground system the vast majority of electrons run along the "outer most surface or skin of the conductor. A good RF ground has the least amount of resistance to electrons being conducted to ground via the most amount of conducting surface area (skin) that is practical. The goal of a good RF ground system is to obtain as "little" resistance as possible between the "antenna/tower-to-ground" and the "radio-to-ground." Thus the more conductive surface area the larger the path for electrons to earth ground. You could argue that multi-stranded cable/wires have more overall wire surface area but the touch areas of the wires negated skin effect conductance. Do not confuse current carrying capability with grounding skin affect they are two very different elements of electrical conductivity.

A typical laboratory/aerospace test system ground measures <12 ohms from "Unit-Under-Test to earth ground". A very very GOOD cold water iron pipe ground may measure as little as 35 ohms and that's if the water pipes are NOT PVC. [BEWARE --most new home construction use PVC pipes for water and sewage. Even in older homes the water service provider should have installed more than a 5' section of plastic pipe between the water mains and your home water line feeder -- this is to eliminate electrolysis/galvanic action within the piping system.]

Making a ground measurement is very difficult and most HAM's do not have a Megger(TM) generator type instrument to conduct a valid resistance measurement. This paper will attempt to "assist" in providing knowledge and examples of "reasonably good" RF ground systems that are within the economical range of most HAM's and that can achieve <20 ohms. How good a ground system you want installed is directly proportional to the amount of effort and funds you want to invest in the safety/operation of your station.

Disclaimer: Will installing these grounding methods written here prevent a loss of equipment from a lightening hit, NO! What it will do is help in minimizing damages. Are the methods in this paper the "best"? This is a loaded question that few understand but all HAMs seem to be experts on. When getting into these philosophical arguments I resign myself to just listen to what these self proclaimed experts profess and either improve my knowledge or shake my head in despair and walk away -- you cannot improve self-proclaimed experts knowledge. PolyPhaser™ has a much more elaborate ground system plans but I cannot afford nor do I have the acreage to install a PolyPhaser ground system (designed for the infinite budget commercial world).

This paper gives examples of two scenarios for a "good & reasonable" HAM radio station ground system. [See the complete PDF file article at the link below!](#) 73 N6JSX

<http://www.hamuniverse.com/n6jsxSimpleSmartStationGrounding2007.pdf>

Spirit Mountain Amateur Radio Club KS7MC

SMARC Membership

Are you ready to become a member of the Spirit Mountain Amateur Radio Club?

Use the link below. It will redirect you to the online membership form. Fill out the requested information and click on submit. A PayPal request will be sent to your email address for payment.

The cost is listed at the top of the membership form, \$20 for individuals and \$30 for families of up to three members. Thank you.

<https://tiny.cc/smarcjoin>

CLUB MEMBERSHIP BADGES

Get your own custom SMARC membership badge from Ham Badgers. Several members have ordered their badges with quick results. Order using the redirect link listed below.

<https://bit.ly/smarcbadge>



THE HAM BADGERS

zoom Video Club Meetings

The SMARC Club has a monthly online ZOOM meeting on the first Saturday of each month at 2pm MST. The next one is August 5. If you're new to online video meetings, it's simple, and fun. You need just a microphone and web cam. Most laptop computers already have the mic and cam built in. If you need a camera/microphone combo unit for your desktop computer search Amazon and you'll find a nice unit for just \$25-30+.

You can install the software on your phone but you and the others in the video meeting will all have a better experience if you use your desktop or laptop computer on your home or business Internet connection. There's a meeting client to download before your first online meeting. Use this re-direct link: <http://tiny.cc/zoomclient>.

A suggestion is to add your callsign to your display name, so it'll be displayed to everyone else during the video meeting. You do this in your account settings before entering the meeting. Give yourself extra time before the meeting to prepare.

Contact Mark Melvin AE6MP at mightypilot@gmail.com for help getting set up.

From time to time the meeting schedule may need to be adjusted to accommodate member's schedules. The change will be announced on our group Facebook page.

—>USE THIS MEETING RE-DIRECT LINK TO LAUNCH THE ZOOM MEETING!<—
<http://tiny.cc/smarczoom>

