



RAINBOW CANYONS AMATEUR RADIO CLUB
CEDAR CITY, UTAH 84720

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MARCH MEETING RECAP

President Chaffee, N7BO, opened the meeting on time. A few items of business were conducted and kept short to allow ample time for our featured speaker and guest, John Spencer, K7KF.

We are still looking for someone or an entity to put lettering on our club “uniforms”. To date, all known avenues have not materialized. If you know of someone or a business that will do lettering on our safety vests, for a reasonable price, please let the presidency know.

Don Blanchard, WA7GTU, reported that the '94 machine, the Packet node and links are now fully operational. Everything that was “down” on Frisco Peak is now “up”, thanks to someone who ventured in and reset a circuit breaker. This is good news for anyone needing to use the equipment on Frisco Peak.

The “800 machine” at Blow Hard is still problematic. Personnel are waiting for a break in the weather to snowmobile in and do repairs.

CONTESTING—MID-WEST STYLE

Our featured speaker, John Spencer, K7KF, spoke to the club members and presented a *PowerPoint* presentation that has been presented to numerous ham clubs and even Dayton Hamvention. The subject was on how a group of hams dreamed of building a “killer contesting station”, then realizing their dream.

Land, money, equipment, engineering expertise

And much planning went into this one of a kind, top shelf, and radio station.

It all started with the procurement of a used, self-standing, broadcast tower. But what to put on top of it? How about an 80-meter mono band Yagi with unbelievable forward gain and great rejection? Who has one for sale?

No one?!

Then, we will *build* one. How about an antenna with 4 elements, $\frac{1}{4}$ wave, and wide spaced, on a cantilever boom—for 80 meters?

An 80-meter *Yagi*?!

That's right, they **built** an 80-meter Yagi. The dimensions were something like 132 foot wide driven element, 90-foot long boom, rotate able and punched atop the 200-foot self-standing tower!

Do you have a mental picture and new definition for the word **gigantic**?

That wasn't the only antenna they built. How about a 40-meter mono band Yagi, also rotate able and the boom made out of a Rhone 35 tower?

There is yet more, but much more reserve—like the usual stacked Yagi's and verticals and directional wires.

How did it work? In John's own words. “I was in

another state for work assignment and had the opportunity to visit another contest station. I asked the operator how the “gang” was doing? He said, they are working a pile up I can't even hear”

That pretty well says it all—working a pile up that another super station **can not hear**.

The only sad thing about the entire venture is that in a matter of 7 or 8 years the station was dismantled and much of the antennas and tower sold for scrap.

John had everyone drooling and speechless for over an hour. I know of some pretty good size stations, with copious antenna farms but nothing to compare with what once was—and is no more.

Thank you, John, for sharing the fulfilled dream of some ordinary amateurs who thought big and acted even bigger.

ANTENNA IS THE NAME OF THE GAME

Most times an editor has a struggle to find something new to write about for a newspaper or newsletter, for that matter. With ham radio, quite the opposite is true—which subject shall we discuss today?

I would like to say something about antennas. Most new hams I talk with can't wait for that new HT, transceiver, mobile rig to show up. All they need is a few more \$\$\$ and they will have it! Nothing quite like a brand new radio to impress yourself and those around you.

But wait. What kind of antenna are you going to use with that spanking new, whiz-bang rig? Have

you given any thought to that lately? Should you even care?

The answer is “YES” to both questions. I learned long ago that if you do ham radio on a budget (which most of us do) you are better off putting a large sum of money into the antenna and a modest amount into the radio—not the other way around!

I have never forgot the lesson learned at the hand of the master, Ken Munford, N7KM, about the advantage an antenna has over a radio or amplifier for the same amount of money outlay. Using the law of Decibel, it is easy to see how a gain antenna, with adequate rejection side-to-side and front to back ratio, far exceeds the best HF rig or amplifier money can buy.

So, why do we buy that multi-mode, bell and whistle rig?

Probably because we've **seen** it and **touched** it more often than we do the forgotten and forlorn outside an

Most antennas have a few catchy words associated with them and acronyms as well. You need to understand what they mean so you are informed as to the performance of that next antenna you acquire—just like that new rig your were drooling over.

Gain: Think of that as how good does it “hear” compared to a dipole antenna. The higher *gain* figures it has the more sensitive it is to “hearing” weak signals. And, the louder it “talks” during transmit, compared to that dipole. Usually the higher number commands the highest price tag as well, if you purchase a factory antenna.

Front to back ratio: In Decibels, that is the difference between how loud it talks in one direction compared to another—usually the front of the antenna compared to the back. Again, choose the one with the highest ratio.

Why is that important? Because on crowded or noisy bands, you usually want to talk with only one person at a time. Pointing (rotating) your antenna so the front points toward him you direct more RF energy (signal) in his direction. You don't necessarily want to "talk" with the folks off the side or back of the antenna. Nor do you want to listen to them if the guy you are talking to is weak or difficult to hear.

Db D and Db I: These are acronyms that mean similar comparisons but can be misleading.

Db I is short for Decibel of an *isotropic dipole* antenna. That is an antenna, which radiates in a perfect vacuum with no end supports or center support or attached feed line or other detuning objects affecting its performance. It is a theoretically perfect performing antenna—that cannot be built. It is used as a comparison for engineering purposes only. Many antenna builders/advertisers use the Db I values to "improve" the performance of their particular antenna for selling purposes. Buyers beware!

Db D is the actual Decibel value displayed by a dipole antenna in free space—with end supports and feed line attached. The Decibel value will always be lower by one or so "points". This is the value you can expect from the antenna hung at the optimum height and clearance under normal operating conditions. Always use this value for comparisons.

"Q": This is an interest term that confuses many—and I don't know if I can explain it correctly. The way I understand it, "Q" is an engineering term used to describe the "sharpness" or "broadness" of a circuit or antenna. Usually a high "Q" value means that the circuit (or antenna) is very sharp or narrow in performance. A low "Q" circuit or antenna has a broader or wider spectrum affixed with it. Both have their place.

Speaking of antennas, most tri-bander Yagi antennas are fairly broad banded and thus, low "Q" A Vee beam or Rhombic is very high "Q" or narrow band performing antenna.

It also shows up depending on band of operation and band the antenna was "cut" for. Using a single band antenna and a "tuner" will allow you to load the single band antenna on multiple bands but with different "Q" values. That is why some 80-meter antennas are very narrow in "bandwidth" on the low bands and broader on the higher bands.

Certain circuits have "Q" affixed to them. Filters can be high "Q" devices. I am sure you have heard of "low pass", "high pass" and "band pass" filters. Each has a different "Q" for a specific purpose. You usually don't want a low "Q" band pass filter in a CW or digital mode circuit. Kind of defeats the purpose!

Match: The all in compassing, fleeting, terrorizing term everyone hears so much about but understands very little about—probably because you can't *see* it. It's really quite simple. Your (ham) radio is designed to work into a proximate 50-ohm resistive *load (the antenna)*. The radio will also work into an ohm load of say 30 through 70 ohm with little complaint. Above or below that it begins to "fold back" or **cut down the power output** of the radio to protect the final amplifier transistors, which don't like heat. Heat introduced to the radio via the feed line and reflected power **not** dispersed into space by the antenna.

Now, reread the last paragraph until you have a mental motion picture of power flowing out of your radio toward the antenna and power flowing back into the radio **at the same instant of time**. When you have a mental motion picture of this happening then you begin to understand the basics of "match" and "mismatch". Match is

good. Mismatch it bad.

Without getting into engineering principles of inductance, capacitance, reactance and much more just remember, 50 ohm antenna and feed line are required to make your radio happy.

We hams always like to complicate things by changing frequency on our radios and thus introducing mismatch into the equation. If we stayed on one frequency all the time then we would not have our mismatch problems. Since the manufacture places a knob on the radio, we naturally like to turn it to hear what is going on, on another frequency. Actually, listening isn't the problem either; it only shows up when we try to **transmit**.

If this subject intrigues you, purchase an antenna book of your choice and study. It only took me about 5 years to get the concept through my thick head!

NEXT MONTH, SOLAR PANELS

Next month's club meeting program will be focusing on Solar panels and controls. As summer approaches and daylight time extended more interest naturally increases with the thought of free power for our radios and batteries. Please welcome our special guest and the interesting subject of solar power.

PRESIDENT MESSAGE

I too would like to echo what our newsletter editor has said about the last club night. It was a great club night. Those of you who did not make it missed a real treat. John gave a great presentation on a great contesting station.

One of the things that really stuck out in my mind

was the two hundred foot tower that he and the club members erected. To give you some kind of idea how big this tower was, the base of the tower had a twenty- foot span between each leg. When the tower was laying on the ground the base of the tower was taller than the tallest part of my house.

All I can say is WOW!

Coming up on the 9th of May is the Scouting Expo, and we have been asked to set up a booth to share and show the Cub Scouts something about ham radio.

This year we are setting up two PSK station there at the Expo hopefully across the field from each other, that way we can communicate one to another, instead of relying on the band condition.

I do believe we have the radios taken care of, but it would be nice to have some other hams there to help with answering any question that the boys may have. If you would like to volunteer please let one of the presidency know.

Now for you VHF and UHF operators, there is a VHF contest that comes up every June.

This year the VHF contest is going to be on the 13th and 14th of June.

Even though you can do this contest in the comfort of your own home, it is a very big benefit to find a mountaintop to set up a station. That would be the ideal set-up to make contacts. If any one would like to know more about the VHF contest, our would like to join us in going up to the top of a mountain, please contact me Russ N7BO.

Now is the time to be planning for the annual Field Day. This year Field Day is on the twenty-seventh and twenty-eight of June. This activity is

always the last full weekend in the month of June.

If you missed Field Day in the past please schedule this weekend on your calendar, come out and have fun. Bring your family, bring a friend, camp over, and as always there will be a dinner on Saturday night.

BIO

I woke up one day and there was the world. I am not sure when this actually happened, I was told it was back on the 29th day of April 1959.

I came to life in a town call Modesto California. Mother tells me back in 1959 Modesto's population was around thirty thousand. When I left Modesto in 1982 it was knocking on the back door of two hundred thousand.

Moving here to Cedar City was the fourth best thing that ever happened to me in my life. Of course the first and foremost is the fact that I have a testimony of the savor Jesus Christ. The second is my best friend, my wife, and the third is my children, and now grand children.

I seem to recall even as a youngster, that I had an interest in radio. Before I go there let me mention a couple of other hobbies I have had over the years.

I am guessing on the time frame because I have a thing called part timers. I was about eleven years of age while living in Modesto there was a neighbor boy that came around with a pigeon. We would all ooh and aw about that bird. Then he would let it go flying. I asked him, aren't you afraid you are going to loose your pigeon? The neighbor boy replied, no, I am not afraid it is a homing pigeon. I had no clue what he was talking about, so I started asking questions.

The neighbor boy invited me over to his house. At this time I still did not know what the neighbors name was. I took him up on his offer.

We set a time, only because we both needed to make sure it was ok from our parents, one to have a friend come over and two to make sure it as ok from my mother to go over.

Phone calls where made and the green light was on. While on the phone though, I needed to get the boys name and phone and address form my mother. Well you know how kids are we are, not very worried about the details. HI HI..

The boy's name was Louie Sun. so the story goes, I went over to Louie's house and it was pretty much history from there. I wanted to have my own pigeons. I was all excited, so on my way home I was trying to come up with all kind of reason to justify to my mother why it would be a great and wonderful thing to have pigeons.

After arriving home I sought out my mother to discuss how cool it was to go over to Louie's and not only find a new friend, but to have a new hobby of pigeons.

As you can guess the conversation did not go as planned. As mother and I chatted things like responsibility, commitment, and others words came up. As I look back, I think in her own way she was trying to convey the word NO. As a young child, like most kids I didn't give up, sometimes kids can even be ruthless in presenting and conveying what we want. Finally she just came out and said no. No way can it happen, we just did not have the money to buy the materials to build a coop etc.

After a week or two went by, my new friend and I went looking in the back yard and discovered that there is enough wood to put together and build a

pigeon coop.

Here is the funny part of this story. Our garage was being remodel into a playroom, so therefore there was no more garage door, just a man door to get in and out.

My friend Louie and I one day while, my mother was at work, gathered up the wood that we thought it would take to build this coop, and brought it into the future playroom. And we started to build the coop not paying any attention on how big the pigeon coop was. It did not take long to erect the coop, we had it all done by the time my mother came home from work. I went to hide HI HI, but that did not happen. She snuck up on us and saw what we were up to. Much to her surprise there was a pigeon coop in her soon to be playroom. Well, needless to say, it did not go over very well.

Back to where we were not paying attention to size, that was the first thing that my mother had picked up on. Out came the question how are you going to get the coop out of this room? As we looked the situation over, we scratched our heads thinking oops!

We had to take the whole thing apart to get it out of the room. Nothing like getting in a little practice on how to build a building and then having to take it apart.

After my mother saw how much this really meant to me, she said ok, that I could have the pigeons. I was really excited. Guess what, she also came out and helped me build a coop out in the back yard.

After that I raised and raced pigeons. I even had some that flew two hundred miles and even a couple of five hundred milers.

Raising pigeons was and still is a great hobby. I do miss it at times. I have even thought about getting back into at least raising them again.

The next hobby was to build and race streetcars. I will make this very short. I have had a few different cars over the years. But they all took so much money and sometimes I wished I had that money for other things now. I guess if I did not have this experience I would not be the person I am today.

Remember I had mentioned I have been interested in radio for quite a few years? If I remember right it was about my 9th birthday I asked for a CB radio. The best I got was two walkie-talkies. I thought that was very cool, until I found out that they were only good from the front door to the end of the driveway.

A little time past and I was about seventeen when I had the notion to buy my own CB, yes CB, I did not know what ham radio was then. Anyway I remember installing it in my car. It sure was a lot of fun.

As time seems to go on I found myself married to my high school sweetheart. We were married in 1980, moved to Utah in 1982 and have been here ever since then.

The first working years of my life, I was a small engine mechanic. I sure enjoyed working on small engines. Some time in 1984 said I would like to be an auto mechanic. I worked in the automotive industry till about 1990. It was in 1989 when a customer came into the shop and was inquiring about an appointment to have his truck worked on, and while chatting with him, that I noticed that he had what appeared to be a radio clipped to his belt.

When he brought his truck in for his appointment,

he stayed around while the work was being done. Again I noticed that there was the same devices fasten on his belt. And all the sudden the silence was broken by someone talking over this device. I listen until the conversation was over, and then ask the customer what kind of radio that was, he replied, why it is a ham radio! All the sudden it seemed like that all the work that was to be done came to a complete stop while this person and I chatted about ham radio.

This person actually invited me to go on an outing that was called Field Day. I was not quite sure what I was in for or what I was getting myself into, so I accepted the invitation. He kept in touch with me to keep me posted of the time and date, oh, and where it was going to be held.

Come to find out that Field Day was on the last full weekend in June and the location was going to be up on the mountain. The place they had chosen was down in a place called Webster's Flat. What I didn't remember was it really was at Deer Haven.

I was excited for this weekend to come with nervous anticipation. I started up the mountain and made my way to the top, turned on the road leading down into Webster Flat. I had been down in there many times to go cut firewood. I love going down in there, it is a beautiful place to be in, and I knew my way around pretty well.

As, I came up upon a camp thinking this must be the place. One of the things that gave is away was the antennas. I parked and jump out of my truck. And much to my surprise received a wonderful greeting from all of the members that were there.

I remember meeting Brad Beidermann WA7HHE, Bud Burns KA7HYD, and others I don't remember.

Brad was doing the cooking, dinner was all about

done, but before I could go to far, I was invited into the radio shack. It was a really big yellow canvas tent. I do remember it being warm in there. The radio was hot and airwaves were full of signals. It seemed at times I could not tell one station apart from another.

The dinner bell rang and we were called out for dinner. I do remember that the radio operators stayed in and kept at it. Dinner was great and the company was even better. They talk about radio and all the stories that go along with it.

After dinner and the stories I wandered over to the radio station again. I could not believe all the signals that were on the air. Oh, and yes they tried to get me on the air as well. That part was a big blur HI HI. At that point it was all over, I was hooked I wanted to get my ham ticket to get on the air. There was a fire lit under me that I had not felt before, as I do about this hobby.

That customer who invited me up to Field Day, followed up with me later got me hook on amateur radio. He informed me that Brad Beidermann WA7HHE was the instructor of the class that starts in January, winter quarter at the college. I signed up for the 1990 class and was only able to make a couple of cases. I had to put it off for one more year. Then I passed the class, and passed the Morse code with flying colors. HI

You see the ham that got me interested in amateur radio was a good friend and fellow ham. Most of you will know him, and those of you who did not know him, missed knowing a great individual. That customer that I spoke of lived out at Pinto Junction. That's right that person I would of liked to thank again was Gerry Rounds KC7ZH (SK).

Now you know the rest of the story.

Thank you for voting me in as you president for

the year 2009 and I hope to see all of you around
either in person or on the airwaves.

73's DE N7BO ES Happy Hamming

Russ

DM37kp