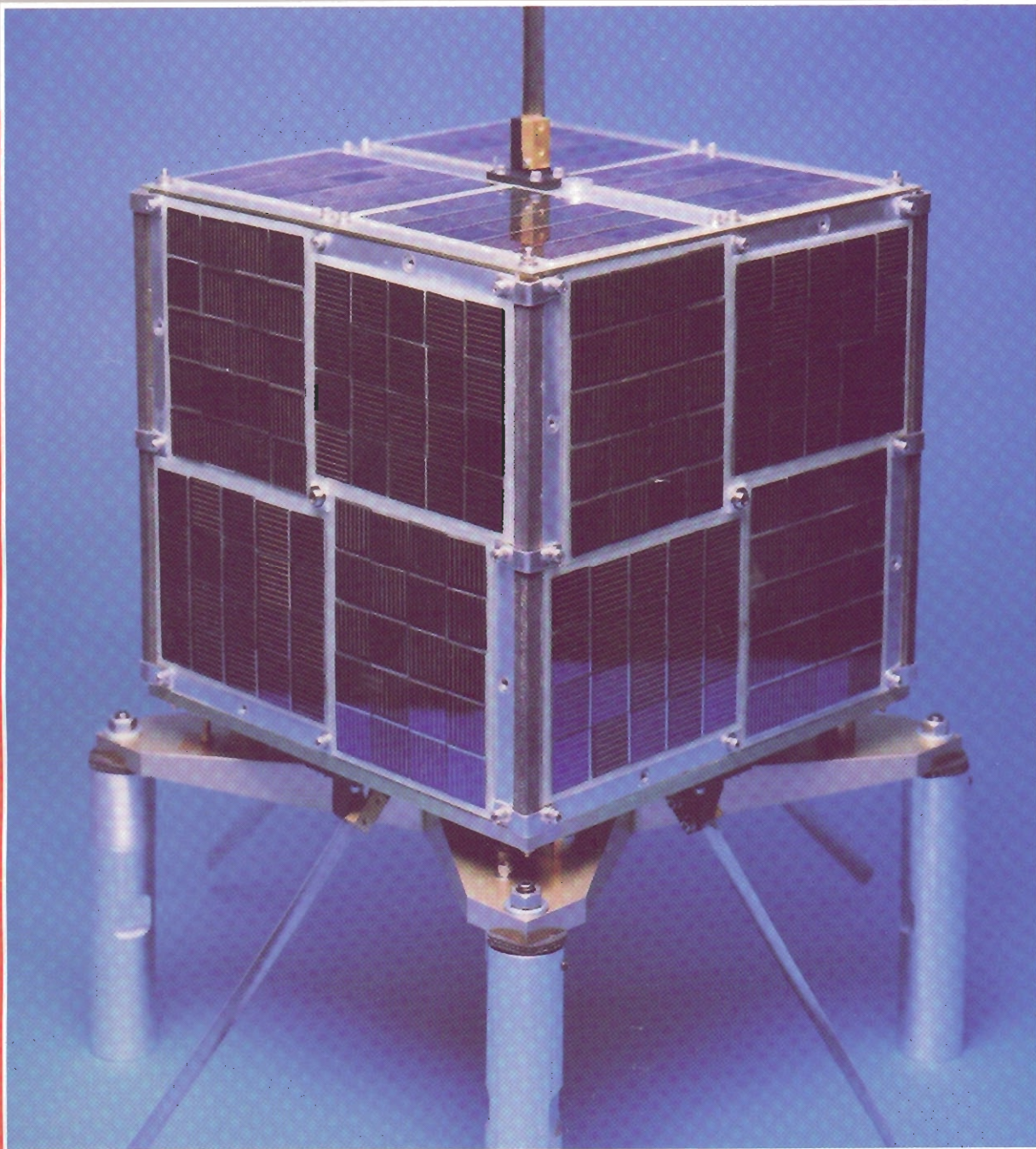


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# Packet Radio: Worked All States and Beyond

Was the quest for a first Amateur Radio award based on irrational motivation from a \$10 piece of wood?

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**T**here he was. In the October 1987 issue of *QST*, Art, KF6EE, was proudly holding the plaque for Packet WAS Number 1. He had been the first to use packet, one of the most exciting new aspects of our great hobby, to obtain the ARRL Worked All States award. Below Art's photo was the hook that grabbed my attention—that same plaque was going to be awarded to the next nine hams to match Art's accomplishment.

This article describes my chase for one of the remaining nine plaques—or how a grown man gets irrationally motivated by a \$10 piece of wood. I also try to show how you might enjoy packet radio even if you never thought you would see the “ones and zeros” of digital modes as fun. My other goal is to motivate others to join the chase. Based on my last discussion with ARRL HQ, only six of the 10 plaques have been awarded thus far. So you still have a chance, even if you haven't started yet.

## First Step: Gauge the Competition

I have been licensed for 28 years, from the age of 12, and in all that time had never chased any awards. Having a compulsive, competitive, Type A personality makes that a surprise, even to me. But this award looked interesting. I grabbed a calculator and developed the following algorithm to gauge the extent of my competition:

$$\text{COMP}_{\text{WAS}} = (\text{number of active hams on packet}) \times (\% \text{ that are ARRL members}) \times (\% \text{ of packeteers on HF}) \times (\% \text{ wanting the award}) \times (\% \text{ willing to hassle with the work to finish})$$

Although the number derived is left as an exercise for the reader, my calculation, or Packet Factor, showed I had an excellent chance at qualifying for a plaque, even with the limitations of my station. Having a tribander mounted at only 30 feet and maximum power of 150 watts limit any notion I have about being one of the big guns on the ham bands. This was a concern, considering that a majority of HF packet activity is found on 20 meters.



Despite delays and roadblocks, the author's pursuit of the ARRL's Packet WAS Award turned into a labor of love. (photo courtesy Asti Milkovic)

Another concern had to do with my lack of record keeping. Ever since the FCC stopped requiring detailed logging, I had gotten lackadaisical. Although I had been on HF packet for almost a year when I started the chase for WAS, I had logged very few contacts. The result was that I would be starting from about zero.

Even with these concerns, I figured that the chase for a plaque, based on my calculation, ought to be a piece of cake. I thought I could wrap up the whole thing, start to finish, in about a month. I was wrong. My algorithm had not taken certain other factors into account, factors that caused a major impact.

## Stumbling Blocks

Even with all the benefits of packet for WAS (see accompanying sidebar), my quest for the \$10 plaque was not without

challenges. Full disclosure dictates that I mention some of the stumbling blocks I encountered:

- Compared with SSB, and probably CW, there are fewer hams on packet. The last estimate I saw said there were about 40,000 US packeteers. A hefty portion of these are on VHF but not yet on HF. This does not present a problem with working Texas or California because of their high ham populations. However, a state like North Dakota can be a real problem since there are a total of only 1167 hams in the whole state (0.25% of all US hams). If you apply the impact of the Packet Factor shown in the algorithm, you can end up with some very low probabilities.

All of that having been said, it still depends a lot on luck. One of the very first states I worked, and confirmed, was South Dakota. With 1178 hams—11 more than its

neighbor to the north—I suppose I shouldn't be surprised that it was easier to work! Of course, you don't really care how rare a state is; you need only find one ham to contact and QSL in each state. Depending on your own location, you will have your own problem states. With the continuing significant growth of packet, along with more hams adding HF to their existing VHF packet capabilities, the quest for WAS should get easier with each passing month.

• I had technical difficulties that most of you won't have—my wife and I were expecting our first child right in the middle of chasing WAS. With Lamaze classes for 2-3 hours every Saturday for seven weeks, my time for Amateur Radio was significantly impacted. Add to that the time spent looking at cribs, car seats and other non-electronic gizmos, and my weekends were filled with distractions from packet.

• As I mention in the sidebar, Hawaii was a problem state for me. But I had received messages from two stations via SkipNet in response to my plea for a sked. Unfortunately, I could never hear, let alone connect with, the first. That left only one other opportunity—the sked with Earl, WX4J, in Ewa Beach, Hawaii on January 9, with a backup date of January 10.

As January 9 arrived, the baby was 9 days late, not only screwing up my tax deduction, but jeopardizing my sked with Hawaii. In anticipation, I began negotiations. "Honey, there really isn't that much that I can do to help at the hospital. I'm sure the doctor and nurses can take care of everything. . . ." She was not amused and did not share my priorities. However, in the spirit of compromise, she was kind enough to wait until six hours after my successful sked with WX4J to go into labor, with a healthy nine-pound boy arriving on January 10. Although you'll probably be able to avoid the problem of having a baby at such a critical time, you might as well plan on some kind of family or business distraction and factor it into your timetable. This one added a full month to my original time estimate.

• QSLs were a problem. I should have anticipated one fact—not every ham prints QSL cards. Compounding this problem is the fact that not everyone who has QSLs sends them—especially with the same sense of urgency you have. Aggressively pursuing my quest, I used a three-phase approach:

1) Just send a card and hope you get a response. This approach worked 62% of the time.

2) Send QSLs with an SASE. In some cases, I was told during the QSO that an SASE would be needed and I readily complied. For those states that did not return a quick QSL, I sent another card plus a computer-generated card showing their name, address and call, along with an SASE. This was included just in case the other station did not have cards of his own. I also included a personal letter explaining my quest for Packet WAS and how important the card would be to my success.

## You Can Do It, Too

Packet is one of the most spectrum-efficient modes currently and affordably available to Amateur Radio operators. What other mode allows a dozen or more QSOs to occur simultaneously on one frequency in less spectrum than one side-band contact requires? This is only one of many benefits of packet that should help you obtain WAS. Some tips:

**Monitor Several Stations Simultaneously:** Packet has, for the most part, become channelized. This applies to HF as well as VHF. What this means on HF is that, by sitting on one frequency, you can see calls from all over the country—and the world—without having to tune around.

One of the secrets for chasing Packet WAS successfully is to track all the calls you see scroll across your computer screen. Even if you have already worked and confirmed Texas, you will still need to know that AA5FR is located there so you don't look him up in the *Callbook* every time you see the call sign.

If you have a computer, you can use a simple data-base program to log each call sign you see on your monitor along with the state (and the page number in the *Callbook* for his address after you work him!). I used a simple memory-resident program called Sidekick that has a very remedial data-base capability. You can then sort all the stations by call area and then by call sign for easy look-up when you see a station scroll across your screen. You can also sort by state. By printing out both sorts, you have an instant reference as you monitor the packet frequencies at some future date. As you see new calls on the monitor, manually add the call, state and so on to your printouts and update the computer data base only when the look-up starts getting difficult.

The usefulness of this step can't be overstated. It will allow you to home in on new calls without having to waste time looking up old ones. Even if you don't want to computerize this step, at least maintain a manual data base. You might consider using a dupe sheet such as those required in contests. Whatever method you use, electronic or manual, your quest for WAS will be greatly facilitated.

One last note: Do not assume that because you have worked and confirmed all states in, say, the third call district, that you can ignore all call signs from that district. My Wyoming confirmation had a 5-land call and my Hawaii contact had a 4-land call.

**Bringing Home the Beacon:** Packet has a special beacon capability—you can program your equipment to transmit a user-defined message, or beacon, at any set time interval you desire. For example, you might set up your system to automatically send out every five minutes: "Need for WAS: WY, HI, DE, LA, OK." As enticing as this approach may first appear, there are a few caveats. One, unattended HF packet operation is not allowed without specific approval (virtually all exceptions relate to the national auto forwarding message system called SkipNet). So don't get the idea that you can turn on your system, set the beacon, go off to work and then come home and have all 50 states worked, ready for review in your receive buffer. Even when you are in the shack, don't set your beacon for every 30 seconds, either! Depending on channel congestion, you probably shouldn't beacon more often than every 2 to 5 minutes.

**Aloha Packeteers:** SkipNet is already in place transferring thousands of messages per month between packet bulletin board systems (PBBS). For my location and antenna system, Hawaii was very difficult. With a little research, I found the calls of two Hawaii PBBSs and forwarded a message to both of them addressed to "All." The message said I needed a sked for WAS and listed my "home" PBBS (the one I check into most often). Within a couple of days, I received responses and suggested skeds from two Hawaii stations via SkipNet.

**Amateur Radio in Silence:** Packet is one of the few Amateur Radio modes that doesn't need sound. This is especially beneficial, since chasing WAS can be very time consuming. With packet, you can listen to music, watch TV, pay attention to your wife and perform other socially redeeming activities while still enjoying ham radio. Who could ask for anything more!

This approach worked nearly every time.

3) Send QSLs via Federal Express with a return Fed Ex envelope charged to me. This is an expensive approach, but fortunately I needed to do this only twice. It worked in both cases, and seemed to communicate my sense of urgency. I have to admit that there is something about this approach that is not reflective of the true spirit of Amateur Radio. But it worked.

These steps work great—assuming you have the correct mailing address for the other station. This was the biggest problem I had completing WAS. As I alluded to earlier, North Dakota was my nemesis, and from the beacons I was seeing on 20 meters, it was an obstacle for WAS for several other stations, too. These beacons from the friendly competition convinced me of what I had suspected—there was no currently

active HF packeteer in the entire state of North Dakota. (This may or may not have been true, but it sure seemed like it.)

### Where are You, Warren?

As I said at the beginning of this article, I had not, for the most part, logged my packet QSOs for the first year I was active. But a few contacts had ended up in the log—one being with Warren, KA0KXI, in Grand Forks, North Dakota, back in November 1986. Thank goodness I thought to look back in my old log books. I immediately sent him a QSL, with an SASE and a personal letter. Since I already had all other state confirmations in hand, I started preparing everything for review by the local Awards Manager so that no precious time would be wasted once I received Warren's QSL.

You can imagine how I felt when my envelope was returned—"Addressee Unknown"! The package had been sent to a post office box at "UND"—which I deduced was the University of North Dakota. I checked both current and past *Callbooks*—the address was right. I called Directory Assistance in Grand Forks—but no listing. Now the challenge—how to find a student who had apparently graduated, dropped out or transferred to another school. I pondered the dilemma (another month's delay on my original schedule) and concluded that the only approach was to telephone the registrar's office at UND and try to cajole them into giving me Warren's home address. As I was sitting in the shack

one night watching 40-meter packet scroll across the screen while trying to figure out what to say to the registrar's office, I saw KA0KXI working another station! After initializing the packet connection sequence, I took time to mop up the coffee I spilled reaching for the keyboard.

I had seen Warren tell the other station that he was in Forest Lake, Minnesota. After my connection was made, I told him of my quest. He had transferred to the University of Minnesota and had not changed his *Callbook* address. Fortunately, he remembered working me several times and was able to verify our QSOs in his log. I received his QSL card the following Saturday afternoon, completed the Award Manager's review that evening and sent the completed forms to ARRL by Federal Express on Monday morning.

### Bottom Line

Having persevered long enough, I am happy to say that I was able to complete Packet WAS Number 3 in about four-and-a-half months, start to finish—a little longer than my original one-month estimate. It took another five months to complete Single-Band Packet WAS Number 1 (I thought I would never get Oklahoma on 20 meters).

If your wife doesn't have a baby and the *Callbook* has all the right addresses, you can probably complete your Packet WAS a lot faster than I did—especially with the ever-increasing number of packeteers on HF. If reading about my experiences has helped

pique your interest, the fact that only six of the 10 Packet WAS plaques have been awarded may motivate some of you to reach for your keyboard and start sending directed CQs.

### Beyond WAS

As the title of this article suggests, a packet goal comes to mind that goes beyond WAS. According to the last listing I saw in *QST*, there are now at least 107 DXCC countries with some packet activity. As the explosive growth of packet continues to spread worldwide, maybe I'll be the first to accomplish Packet DXCC. Or maybe it will be you. With the sunspot cycle improving every month, this is a great time for the chase.

*Bob Goodman, AA5FR, Fun Radio (previously KD5SB), is active on packet HF, VHF, UHF and OSCAR 13. Bob is a member of ARRL, AMSAT, Texas Packet Radio Society, Tucson Amateur Packet Radio and the Dallas Amateur Radio Club. He also enjoys contests, DXing, satellites, RTTY and AMTOR. For those of you who will be attending the Diamond Jubilee ARRL National Convention in June, Bob will be giving a presentation on "HF Packet: Hints & Kinks." Bob's home PBBS is WA5MWD. When the bands are closed and the satellites are out of view, Bob is president of Goodman Group, Inc, a Dallas-based real estate investment company. He has a Bachelor's degree in Engineering Physics from the University of Tennessee and an MBA from Pepperdine University.*

QST

## What is Amateur Radio?

Amateur Radio, also known as "ham radio," is communicating. Hams, who must be licensed by their governments, operate two-way equipment from their homes and cars. They communicate with other hams across town or across the world on special sets of radio frequencies, or bands, that are set aside for Amateur Radio use.

## Who are hams?

Just about anyone can be a ham—there are no age limits. Many people with disabilities find a door to the world in Amateur Radio. Some famous people are hams, but most are just people from all walks of life who like making new friends around the world.

## How can I become a ham?

Getting a ham radio license is easier than you may think. In the US, the Novice (beginner's) license requires only passing a 30-question written exam on basic electronic theory and FCC rules and regulations, along with copying and sending Morse code at five words per minute.

The American Radio Relay League (ARRL) offers a wide variety of information for persons interested in radio communication. We can also provide you with a list of clubs and instructors in your area. Many local Amateur Radio clubs offer licensing courses several times a year.



For a prospective ham packet, contact the  
ARRL, Dept Q, 225 Main St, Newington, CT 06111, tel 203-666-1541.