



Episode 518 Dan Quigley N7HQ Transcript

Transcription Funded by Dan Quigley N7HQ

Eric 4Z1UG
N7HQ, this is Eric. 4Z1UG.

Eric 4Z1UG
Are you there, Dan?

Dan N7HQ
I am, Eric.

Eric 4Z1UG
Let's start at the beginning of your ham radio story. Dan, we're about the same age, so I have a sense of the period of time. But paint the picture for us. Tell us how it started for you.

Dan N7HQ
Well, it actually started when I was three years old. My father and mother moved from their starter home in Colorado Springs, Colorado.

Eric 4Z1UG
That was the hometown.

Dan N7HQ
That's the hometown. And I had already been, you know, obviously had been born. And my dad used his va to get a bigger home. And we. And I remember no other homes but this one. The man that lived there was a colonel in the air force, and he was a ham radio operator. I don't know his call, but I do remember everything about the room he had down in the basement, including the full set gold dust twins calling, you know, seeing the telephone pole he had as a tower. And I was just amazed at that room. The smell. The. It was warmer than the rest of the room because of all the tube gear was fired up. And I could, you know, and I could hear these crazy sounds coming out of the speaker.

Dan N7HQ
So that was, I still have a very vivid memory of that. And that really started my interest in radio and electronics. And so it was really natural for me to kind of go this direction. My mother, when I was, like, nine years old, gave me a crystal radio for getting a good report card at school. And I put that together, and for the longest time, I experimented with, like, can I hook it to my bed springs? Or what about the gutter on our house to, you know, what if I just take a long piece of magnet wire and stretch it out the window? Take it as far as I go? What? So I started experimenting with

listening to whatever I could pick up on the, on that device. And. And then I got a paper route, and I would.

Dan N7HQ

It was, I was delivering the Denver Post, which was a. It was, it was nice. It was a nice paper because I only had, like, I don't know, 60 or so customers compared with a hundred or whatever, that the local paper was.

Eric 4Z1UG

The Denver Post then. Was that an afternoon paper?

Dan N7HQ

In those days, it was an afternoon paper except for Sunday morning. So you had to deliver Sunday morning. But anyway, I, you know, would be on my bicycle delivering papers. And then every so often, I'd see another kid delivering the same paper. Our paper routes were adjacent to each other, and one day we just stopped and chatted for a little bit. Turns out that we both had an interest in radio and rocketry, of all things. So we struck up a friendship, you know, we decided that, well, if we combine our routes, we could make it delivery much more efficient. And we would take these little cb walkie talkies and communicate, like, where we are. So we end at pretty much the same time, and then we go have an ice cream cone or, you know, hamburger or something like that.

Dan N7HQ

His name is Martin Rowe. Was WB0JNV. In fact, he's still active as a ham. Lives up in South Dakota. But we started trying to figure out how we could communicate between our two houses, which was about a mile away from each other. 100 milliwatts just doesn't get you there, right? And so went through. I went through the same sort of exercise. Well, let's just stretch a long wire, make the antenna bigger. Knew nothing about radio. And then his brother was studying to be an electronics engineer and told us, well, you should get your ham radio license. So we both studied to do that and we both got our, you know, our novice ticket and then we kind of graduated, but then we could communicate back and forth.

Eric 4Z1UG

Did you have the resources there? Did you find the amateur radio club? Did you find books in the library? How was it that you and Martin were able to kind of go to that next step?

Dan N7HQ

His brother had an old receiver and one of the old ARC-5, I can't remember the model number of it, transmitter that was converted to like 40 meters and 80 meters. And so that was sort of like how we learned the hands on part of it. But the ARRL, went out and both bought the handbook, and that was the Bible. I mean, that was really what we used to study for our exams. There was no question pool or anything like that back in that day. You really had to know your stuff. And we would quiz each other on each chapter and we stayed more or less in lockstep. He was much better student than I was, but were pretty much on parallel paths. Then I went to a private boarding school and the.

Eric 4Z1UG

In the Colorado Springs area.

Dan N7HQ

No, this is in Canyon City, Colorado. It was a little south and a little west about 45 miles. And it was Holy Cross Abbey was the name of the. The school still is still around. In fact, I just went to the 50th class reunion. The school has since closed, and the monastery there is up for sale if someone wants to buy it. It's only \$7 million for this beautiful gothic monastery and grounds. It's just a shame that it's falling into disrepair yeah.

Eric 4Z1UG

But it's also in a great touristy area. Right. You've got the bridge, Royal Gorge.

Dan N7HQ

Right. The ski area. So anybody that's interested listening to this podcast.

Eric 4Z1UG

Yeah. House on the beach is \$7 million. You could have a whole abbey.

Dan N7HQ

Yeah. Yeah. Or California. You know, you could, you know, like a condo. There is about 7 million, depending where you are. Anyway, the school was. It was. It was really a. It was an excellent school. My situation was such that I needed to make a little extra money, and so they had a program that allowed you to do some work, and you would get paid a stipend, basically, for spending money while you were there. And the things that you could do were basically dish out food at the cafeteria or go shovel manure in the. In the stables. But there was also a spot for a lab assistant to the chemistry and physics professor that was there, you know, and I was just basically watching test tubes. And so I said, okay, I'll sign up for that, and I got it.

Dan N7HQ

That seemed like an interesting. A little more interesting than any other kinds of jobs. But to my delight, the basement of the chemistry and physics lab building was packed with electronics gear, and they had a ham radio station and an AM radio station that had been shut down a decade before I got there, and nobody took any interest in it. And it had the gold dust twins, which just tickled my memory.

Eric 4Z1UG

Brought your nostalgia back.

Dan N7HQ

And so I asked for permission if I could. This basement was just amazing. I mean, all the parts they had, because they had. They had electronics courses there at some point, you know, in the past, but they had long since stopped that course. But I asked permission if I could work on it, told him I had a license and got permission to do that. So I set about firing up the ham radio station at the Holy Cross Abbey and. And also the AM station that they had there. It was. It was. The license had expired, but the transmitter was still there. And so I spent most of my spare time just really

immersing myself in radio and to be able to talk to my Martin, who was 45 miles away, that you kind of lose touch with people.

Dan N7HQ

But that was a really great way to stay in touch. But I had an absolute blast, and I was the only student out of, you know, 230 students. So I had. It was just like my shop. I may have been a little isolated there, and people thought I was kind of weird, but, you know, that's where I learned an awful lot about what to do and what not to do with. With old tube gear. So, anyway, that's the. The Genesis story. And ever since then, every good thing that has happened to me in my life has been because of amateur radio or radio in general. Everything. I met my wife. I played it. I played in a band. Played in a rock and roll band in the midwest, and I met my wife in Rapid City, South Dakota.

Eric 4Z1UG

What was the name of your band?

Dan N7HQ

The first one was called Milestone, and were. We started off with two of them, just two. So were duo. We would play holiday. We called it the Holiday Inn Circuit. Right. So we would. We would play in bars at the various holiday inns and wherever our agent would book us. I had a Drake TR-22C that I kept with me that was.

Eric 4Z1UG

A two meter portable. Luggy talkie.

Dan N7HQ

Yeah, Luggie talkie. And it. And I had the common repeater frequencies in it. And this was before they had access tones or anything like that. So I'd usually be able to find a repeater. And then, of course, people would listen to the direct channels more frequently back.

Eric 4Z1UG

Then, like 5276-3494 right. I think they called the TR-22 that because it had 22 pairs of crystals.

Dan N7HQ

Boy, you know, I still have it.

Eric 4Z1UG

I remember that rig. It was pre portables. The portables we had in those days were Motorola surplus, like the HT 200 and HT 220s, but there weren't a lot of ham radio portables quite yet. I think Wilson came out with something standard.

Dan N7HQ

It took d cell batteries, so you could literally take it with you. They didn't last long. It was good for maybe, you know, a couple of hours, and then you'd have to replace batteries. So you quickly learned that rechargeable batteries, although they were fairly nascent, was more economical than even with the radio shack battery card. Right. You couldn't supplement. You just didn't have enough money to do that.

Eric 4Z1UG

And those batteries were nicads. I remember nicads for the HT 220. They were expensive.

Dan N7HQ

Dollar.

Eric 4Z1UG

\$50 to \$100 in seventy's dollars.

Dan N7HQ

That was expensive. But the math was better.

Eric 4Z1UG

It was, yeah.

Dan N7HQ

I mean, it took like eight decals, right? And besides the weight, I mean, that just. You had to have a carrying strap, and it had this little rubber duckies were just coming out.

Eric 4Z1UG

So you had a collapsible antenna.

Dan N7HQ

I had a collapsible antenna. I had that with me. And. And I would be able to talk with, you know, when I would. When we would roll into a town like Rapid City, I would be able to introduce myself.

Eric 4Z1UG

What instrument did you play?

Dan N7HQ

I played guitar and keyboards from the.

Eric 4Z1UG

Video can tell that I actually have a similar interest.

Dan N7HQ

Well, you talked about the shows that you did. But it was something that, I mean, it supplemented the supplemented income.

Eric 4Z1UG

Yes, yes.

Dan N7HQ

You know, after I got married, you know, I played in a local bandaid, more local, regional. Probably better then. That was a full fledged four or five piece. Five piece. And it was called FM and it was a cover band. I mean, were all sort of COVID bands

back then. But this was while I was in Rapid City. And the great thing about Rapid City is you had leed in Deadwood and the big days of 76 festival that they had that was just built in. You know, I was in Leedon Deadwood back then. It was just. The only reason you'd go to was because of the bars that were there. Right. So I played in. I played in the same bar that while Bill, was it. Wild Bill Hickok was. Was shot and killed. So that's kind of an interesting.

Eric 4Z1UG

So you met your wife in Rapid City playing in the band?

Dan N7HQ

I met my wife in Rapid City. Well, ham radio didn't play. She came to see me play, and that's where I met her. But Ham radio played a role there because after we met, we wanted to go have breakfast someplace. And I had no clue where to go, you know, in Rapid City. So I got on 2 meters and I said, where can we go for. For a good breakfast? And someone, and someone came back and.

Eric 4Z1UG

Told me that caught her attention, apparently so.

Dan N7HQ

Right. But she's rude. The day.

Eric 4Z1UG

Now, the stints in the band, was that part of the career that you were developing at that point?

Dan N7HQ

It was a passion, right. So it was, you know, I like music and I. But I liked the technical aspects of it probably more than the performing aspect. So I spent a lot of time, you know, making the equipment that were using more portable and more maintainable and building cables instead of buying them and putting the extra money towards, you know, good, you know, sound reproduction gear and being able to repair it and then, you know, for added money. When I was in Rapid City, I was, you know, would work, you know, some of the load in and load out crew for bands when they came to the civic center there.

Eric 4Z1UG

Like a roadie?

Dan N7HQ

Roadie, yeah, it was, you know, the local help. You know, I had a repair shop at the time. That was the business I was trying to get going. And it was just, it was, it was good business because these bands would come in and they would need someone to work on gear, you know, for the show. And I was on the crew, and so, you know, many times I got, you know, hey, can you fix, you know, our light drivers or, you know, hey, we have an amplifier. That's. How do you know? Can you fix it? You know, I had the parts. I could fix it. So. Made good money.

Eric 4Z1UG

It was kind of like how Bob Heil got his start. He had this audio repair company a little bit.

Dan N7HQ
Yeah.

Eric 4Z1UG
And it evolved into helping the groups coming into town and seeing a need, for example. That sounds like that was a lot of fun.

Dan N7HQ
It was. It was. It was a lot of fun.

Eric 4Z1UG
So what happened after that? Did you stay in Rapid City?

Dan N7HQ
No. So during that time, the PC was introduced. If you ever run a repair shop or been around them, one of the most. One of the more tedious and difficult things to do is maintain a good set of books and accounting for that, especially ordering parts. And Rapid City is serviced by Ellsworth Air Force Base. So when I, the air Force personnel would rotate back out after a tour in, like, Japan or wherever they were, they all needed their stereo gear converted from 50 cycles to 60 cycles, from 100 volts to 110 volts. And, you know, I had just a standing special and I had this constant flow of. Flow of gear, and so I had to keep track of all the parts.

Eric 4Z1UG
Before you go on, we should parenthetically say that in those days, servicemen like to buy the best stereo gear in Japan, right?

Dan N7HQ
That's correct, yeah. Well, because they got it for considerable discount. There was no penalty, import duty or anything like that because they were service members. But so they would come back with all this really nice gear and. And they would need someone that they could trust to service. So I had this built in cash flow and worked out very well. But then the PC came out and I thought, you know, computer would be a really great way for me to, you know, run the accounting and to generate invoices and manage all the parts inventory. And I said, I'll just buy one. So I went out and I bought a 286. No, it was an 8088. Right. This was. This was the original IBM PC, you know, dual floppy slogan. And quickly realized that software was like, there wasn't any software for.

Dan N7HQ
To manage all this. They had an accounting package, but the accounting package was nowhere near what you needed to run, you know, maintain inventory and pronounce. I was very disappointed that I hadn't thought through the whole thing before I went out and spent. It was expensive. It was, you know, about five grand is what I ended up, I think, what I for it. So I had this big investment sitting there, and I said, well, how hard can it be? So I said, I'll learn how to program. And so I spent the next year or so learning how to program. It started with basic and then graduated to

c because Basic wasn't fast enough and found out I had a pretty good knack for doing that.

Dan N7HQ

After I got everything sort of working the way I wanted to, a local business came by and said, you know, they saw that. He said, where'd you get that software? I said, oh, I wrote it. They said, we would love that. And this was someone that sold rv's. We have the same problem, right? Oh, I went and installed that there and was like, oh, well, hey, there's, there's another little business opportunity here. So I started doing PC consulting in Rapid City and that, and at the time, the only place that you could get any information was the local bookstore. You go in and you would buy that. In fact, I still have some of the books here that Peter Norton's book inside the PC, all of those things.

Dan N7HQ

And with my electronics background, I had a figured out that I could, like, manipulate things at a fairly low level.

Eric 4Z1UG

And the books in those days also had the floppy disks in the back with some of the subroutines so you didn't have to enter them by hand.

Dan N7HQ

Well, in fact, it was written for the TRS 80, and I forget what year it came out.

Eric 4Z1UG

Well, the TRS 80 would be 1983 or 1984, maybe.

Dan N7HQ

Yeah, that sounds about right. But this had, like, sorting routines and. And just stuff that you know, I just didn't know anything about. It was all right here.

Eric 4Z1UG

I also had a repair shop in those days. I used AshtonTate dBbase3. So I wasn't really a programmer, but I learned how to write stuff around that for the same reason I was fixing beepers and I had drawers of parts and I had to create a. Create invoices and all that stuff. And you spend hours on the computer trying to just make your life easier. I probably still would have been better off just using the pad and the multiforms.

Dan N7HQ

Well, DB three, that is actually a comma delimited format.

Eric 4Z1UG

That's right.

Dan N7HQ

Right. So, yeah, I'm very familiar with that, and there's another story about that later. But anyway, I taught myself the program.

Eric 4Z1UG

But that's what people did in those days. There was machines, but there was no.

Dan N7HQ

Software, and there was no college courses about this you could go take computer science, but you basically ended up with a stack of punch cards and COBOL.

Eric 4Z1UG

Or RPG or Fortran.

Dan N7HQ

Yep, or Fortran. Rapid city. The school, the South Dakota School of Mines is there. And so I signed up for a. A computer science class there as I couldn't matriculate into the system there. But I thought, well, I'm interested in me as well, see what they. And I was amazed that I learned more from this book than an entire semester of, you know, compute, you know, like a computer science course that I was auditing. And I said, okay, well, that's not a good direction. So. But, you know, I would go to the bookstore, and I would wait for any new book that would come out, and I would just devour it. In one of those trips, there was someone from a town north of Rapid City, Sturgis, you may have heard about. That's where they have the big bike rally every year.

Dan N7HQ

And I still was still playing in bands at this time, but they came in and they said they had this novell network set up in their sale barn, and they were writing software for a sail barn, and they were having trouble doing something with Novell network. And I said, well, I'll take a look at it. And I knew, you know, I knew a little assembly language, and, you know, sure enough, I figured out how to do that. And I started, I said, I tell you what, I would like to be able to use your network in off days. And what I'll do is I'll write code for you if you let me use your network so I could learn network programming. And they said, okay. So I would.

Dan N7HQ

I would show up, you know, a couple times a week in the evenings, usually to do that. And then my wife, she said, you know, you like this so much, why don't you just sell the repair shop business, work on computers, okay? So I chose. I shut down the. This old interest I had in the repair shop and shut that business down and then started devoting myself full time to programming. And I still had this arrangement with this sale barn up in Sturgis, but I started showing up every day. And then one day I got sick, and I called him. I said, well, I'm not going to be in today.

Dan N7HQ

And when I got better, I went back that the owner of the business said, well, I tell you what, if you feel like you're calling in sick for your volunteer work here, I think we'll just put you on the payroll. So I was hired as a programmer for this company called Heritage Software. And over the next few years I ended up being a co owner of that business and expanded the software to include feedlot accounting software. And that ended. That was what there were more feedlots than there were sail barns and they

also needed network. So network. So I ended up stopped playing music and ended up selling software in rural America to feed lots accounting software.

Eric 4Z1UG

And now this mid show break, the QSO Today project that now includes 500 episodes of the QSO Today podcast. The curation of hundreds of hours of QSO today virtual ham expo presentations for public consumption is now supported completely by you, the listeners. I am using a business model called value for value, a concept developed by Adam Curry, K5ACC where you contribute to QSO today exactly what you think its value is to you. Value for value this mid show break and the promotion of the Ham radio workbench podcast later in the show are the only commercials that interrupt the program. QSO Today has no commercial sponsors to influence the content, direction and editorial content of the QSO Today project, which exists solely for the promotion of the amateur radio hobby.

Eric 4Z1UG

Those of you that have listened to over 500 podcast episodes know that I'm not only infatuated by the amateur radio hobby, but by the people who perpetuate it as well. The hours that I dedicate to QSO today is a half time job. Your support at any level pays for all of the technology that I use to create, produce, host and deliver the QSO Today podcast and the project to the ham radio community. And while it is a labor of love, it costs money. I know from statistics and surveys that only 6% of you actually contribute to QSO today in some form. Please make a generous donation using the slider to set the amount of your donation. Make that donation monthly to ensure that QSO today is here for the next 500 episodes as a value for value donation.

Eric 4Z1UG

It should be in the amount that you value each episode of QSO today or your access to our amazing catalog of Ham radio educational videos found on YouTube, Vimeo and using our own player link in the show notes page. Become a listener sponsor monthly or annually. Use my Amazon link in the right column of the QSO Today website before shopping on Amazon. Promote QSO today your friends and family by forwarding our email and social media posts. Subscribe to our mailing lists. Subscribe to the YouTube channel. Tell your friends all of these actions are value for value. Keep the QSO today project alive by taking action. Now we return to our QSO today.

Eric 4Z1UG

Before we started the conversation, Dan and I were talking for about 45 minutes before we started. And we're talking about dirty jobs and things like this. What you're reminding me, Dan, is there are all these little vertical markets that are underserved. So you're making software for feed lots. I bet you could go across America and you could find these little vertical markets where somebody is doing something that you wouldn't even think, like you get egg delivery at your supermarket, but all of the little pieces along the way, for example, poultry shelter controls and software for all that stuff. It's quite amazing. And you're kind of bringing this up that here's a software company that specializes in this little tiny vertical. And I bet it was quite profitable.

Dan N7HQ

There were free owners and we made a living. You know, it was, and it wasn't a bad

living, right? So we did, and you're right, it was. But it was always looking. We were talking about finding opportunity, right? And sometimes it just lands in your lap. So, and all during this time, ham radio operator. Right. You know, so there was, at the time there was this big shift to digital circuits. And you know, I had a teletype machine, the old western teletype machine that I did RTTY on and Hal, I don't know how, came out with their TNC that you could use for RTTY. And that was a lot of fun. And because there was computing involved in all of that, right? There was, there were microprocessors in these, in this ham equipment.

Dan N7HQ

And it was fun having the programming background and the electronics background and everything was kind of convert, starting to converge at that point. So anyway, about that same time, this company, a little company called Microsoft came out with this package called Windows 1.0. Boy, was that rough. Anyway, I became interested in writing software for that because that seemed like a pretty, had graphics and Windows one. It didn't even have separate windows. Everything was like tiled, everything. And then they came out with the next version. One point something, I think I have that box here somewhere that had overlapped Windows.

Dan N7HQ

And so I thought, well, this would be a really great tool to migrate from the basic programs, the more text based programs that were doing for the feedlot software into something more graphical because we could do nice reports and, you know, better user interface, better user experience.

Eric 4Z1UG

Online forums.

Dan N7HQ

Right? Yeah, forms that, what you see is what you get. WYSIWYG. Right. So I started rewriting this software and I, for Windows and I ended up having a lot of technical questions about it, mainly because I was an idiot, but mostly because the documentation wasn't complete, right. It was just like an API and that was it. So I started sending questions to Microsoft about like, how do you do this? How can I do this? This isn't working. How do I work around the problem? This was like 1989 by this time. And I think out of the hundreds of questions I sent, I maybe got answers to two of them, just a very few answers.

Dan N7HQ

So I figured solutions out by myself and I started responding to my own questions back to Microsoft, going, all right, well, since, you know, I figured out how to do this is how you do it. Maybe you can use it to help someone else, that sort of thing. And then my phone rings one day and it was this fellow named Nate Dixon who's no longer with us and he's from Microsoft. And he goes, you know, we saw that you were answering your own questions. We want to know if you would be willing to come interview for a job here at Microsoft. And as we got to know each other a little bit, it turns out he was a ham radio operator.

Dan N7HQ

So we struck up a pretty good friendship and he made sure that I got on the right

interview track and sort of pushed me. And so I went to interview at Microsoft and was hired on the spot. They were, had not shipped windows three yet, but here was this. I was older than most of the people at Microsoft at that time by maybe five years. I felt kind of like an old guy that, you know, there already. But, you know, the questions that I got asked in that first set of interviews, I thought, there's no way I'm going to make it through this. Absolutely no way. But they hired me. And so on January 3, 1990, I started it, started work at Microsoft full time in Bellevue, Washington.

Eric 4Z1UG

So you had to move.

Dan N7HQ

It had to move. And so that launched a whole different career. But I had this sort of base friendship already established with an amateur radio operator there. And of course, you know, I mean, he introduced me to more amateur, you know, operators at Microsoft. And we would get together every Friday and have our geek lunch where we would have, you know, talk about all things radio. It was really a wonderful, you know, it was a wonderful time, right? And when I say that every good thing happened to me because of m radio, that's one of the shining points I got, you know, hired at Microsoft, I think I like to say, because the guy on the other end of the phone was a ham radio operator.

Eric 4Z1UG

Isn't that amazing?

Dan N7HQ

It is. It's a, it's a sorority fraternity. That we have here and that has, you know. Yep. So I spent ten years at Microsoft, you know, working on device drivers for Windows and helping other developers. And I transitioned to technical marketing and ended up, you know, producing several hundred hours of technical content, video content, or, you know, that helped other developers learn what I would, I learned. And, you know, it was really, it was really a great school, right, to go to because you had the part of the business I was in, especially the technical marketing part. We're dealing with some very smart people that. Going through the business analysis and explaining.

Eric 4Z1UG

ROI and finding out what customers needed.

Dan N7HQ

Listening to customers. One really interesting story is that, you know, it was the second day that I was in the technical marketing group. I shifted jobs to do technical marketing. The fellow by the name of Richard Tate, who unfortunately is not with us, ran that group. And I, and I showed up and he worked and he said, do you own a suit? You know? And I said, yeah, I don't know if it fits, but I know he said, okay. He handed me a cassette tape and he said, here is the corporate strategy on software development tools. Want you to go home and get your suit. You're going to the executive briefing center and you're going to be briefing bank of America. And I had never seen the presentation. Never.

Dan N7HQ

So I plugged in the cassette tape on the way home and was listening to Richard Tate deliver this presentation, got my suit, went back to the executive briefing center, and I'm sitting in this room and I come to realize that there's the CEO of Bank of America, Steve Ballmer, of Microsoft was hosting the meeting. And I thought, oh, my God, am I going to die here, right? So the presenter before me was the program manager for Microsoft Windows, and he was one of the, you know, rising stars at Microsoft, and he was presenting the Windows platform strategy to the bank of America. And he starts out of. And then all sudden, Steve Ballmer goes, no, that's not right. Show us your two best slides. And then leave. And I'm next up, right? And I'm going, oh, God.

Dan N7HQ

Steve Ballmer gets up and leads this conversation about windows, and he goes through the strategy. And then my time slot comes up. And, you know, in the executive briefing center, your name comes up on a, you know, on a screen. Dan Quigley presenting the windows tools strategy is what it did. And I thought, there's no way I can give this presentation. There's absolutely no way. So I got up and I, and I sat on the edge of the little table at the head of the room. And I said, well, you know, I've got a prepared presentation here for you. Before I start, what I'd really like to know is like, what problems do you have, you know, writing the windows? And that conversation just blossomed. I never showed a single slide in that entire presentation. And all he did was talk about their problems.

Dan N7HQ

And, you know, I was, you know, taking notes and answering what I could and asking Steve Ballmer, is there anything you'd like to add, Steve, to the conversation? And I get out of it. And so my hour was up and I go back and I'm in my, in my office. And I thought, God, I dodged a bullet there. And then my manager comes up, walks and rushes into the room and he said, what did you do? And I go, oh, shit, I'm gonna get in trouble here. And I said, well, I just talked to the customer and he said, you got the highest ratings of any of the presentations there. And a special note from Steve Ballmer saying that he would like to have you back to do the same thing with this list of companies. Right?

Dan N7HQ

So that lesson was about listening to customers and giving that. So that didn't happen because of ham radio, but it was certainly something that stuck with me. After ten years at Microsoft, it was like 40 years. Any place else. I decided that I was going to go do a startup and work on home and building automation software because I saw a need and I had this house. And I thought, how am I going to convince my wife that I wanted to automate this house? How could I do it? And I said, well, I tell you what, I need to write software for it. So I started writing software and I realized it was a bigger problem than I could solve by myself. So I said, well, let's start a company. It seems like there's a need here.

Dan N7HQ

So I did that, started premise software for the next five years, worked on developing that and launching that product, and that was successful. We were one of the first, I

think were the first to use TCP IP networking as the integration point for talking to all these different off the shelf devices and automating homes.

Eric 4Z1UG

Was your wife your partner in this business? It seems to me that the biggest roadblock to home automation in any home is the spouse who the first time she can't turn the light on in the kitchen or close the window. That that's the end of the story. I mean, if you want a successful marriage.

Dan N7HQ

So define partner, unwitting partner. So, yes, so lighting is of course, one of the things that if it doesn't work, you're just, you're doomed. You're, you're doomed. But, you know, my house was a lab. In fact, if you search for my name on the Internet, I think it's still there. There's, there's an article that was written by electronic house about me and my house called life in a lab. And I won't go into too many of the details there. Let people go look that up and read it. Booting a house up is like, you know, in itself is kind of an interesting exercise. And one story that I have is that were at some trade show. I did, like all this crazy automation.

Dan N7HQ

My, one of the objectives I had, I said, I want the house to be able to recognize that a guest has arrived and then alter its programming so for the way that it responds to things. I mean, I had it so you'd walk into a room and the light would go on and it would stay on as long as you, someone was active in the room. That's kind of common fair now, but back then that was something that was new. But I really wanted the house to be truly intelligent. That was a good objective. I don't think we quite got there, but one night we get this phone call from my wife and she goes, the sprinklers are on. I tried to turn on a light in the kitchen, but the sprinklers came on and now I can't get them to turn off.

Dan N7HQ

That was the kind of interaction that might, that my house had with my wife. And we eventually worked out all the bugs and Motorola picked up the, you know, picked up the business, acquired the business, and they were going to have these big plans to drop it, drop the car code into set top boxes. And they were going to sell set top boxes.

Eric 4Z1UG

Did the. Home automation controls.

Dan N7HQ

Home automation control hub. Some executive killed that whole project. So if you can imagine the end of raiders of the lost ark where the Ark of the Covenant's being put into some warehouse. That's what happened to my software, which is kind of sad.

Eric 4Z1UG

Well, do you have home automation now?

Dan N7HQ
I do.

Eric 4Z1UG
And what are you using, like home assistant or something like that?

Dan N7HQ
No, no. So there's more stories. More to the story. I'll get to it. Okay. So, so anyway, I worked at Motorola for five years and worked in the set top division for two of those years and then transitioned into the enterprise group. They were doing something interesting, which was being able to transition from a business phone system to a cell system and do that automatically so you could walk out of a building, then you were that you were using the ips, PBS, PBX, and then it would automatically transition to the cell network and back and forth. So they put me in charge of engineering for that project. And at one point I had like the 300 engineers that were in my organization, in fact, a team in Israel.

Dan N7HQ
And Motorola was a very interesting place to work because, you know, it was an engineering driven organization at the time. So no product got built unless, you know, the executive vice president of engineering gave it his blessing. And one story, I'll tell you that regarding Israel, that directly. So anyway, I get, I think it was 23 or 24 engineers in Israel, and they were RF specialists. They did antennas and that kind of thing. And a project came up that I thought that the team would be really well tooled to be able to manage. And there was this approval process that I had to go through even as a senior director, to get approval to assign resources. Right, because you were taking resources away typically from some other program. The executive VP of engineering told me, he said, no, you can't do that.

Dan N7HQ
I said, what is this team working on? He says, well, you don't need to know that. Anyway, I had this team in Israel that I was administrating. They were working on projects that I absolutely had no idea about.

Eric 4Z1UG
And I could only imagine parenthetically, Motorola is the oldest american corporation to be in Israel. Their relationship started in like 1961, something like that. And if you look on the back of a lot of the 800 MHz base stations, you'll actually see that they were actually manufactured in Israel. So the association with Motorola is. Goes back a long ways.

Dan N7HQ
Well, it was, yeah. And you know, these guys team, I mean, it was, you know, I figured, I think there were three female engineers and the rest were all male. But I mean, they were really smart people. And, you know, I got to know a couple of them because I had to make sure their reviews got done. And mostly the leads up there, but some very smart people.

Eric 4Z1UG

So their corporate headquarters was the home of the Israeli Amateur Radio society, which is kind of like the Arrl of Israel. So until they moved their corporate headquarters out of Tel Aviv, you made a right turn in the lobby and there was the amateur radio club.

Dan N7HQ

So I never made it to Tel Aviv. I really wanted to go. I saw every other engineering team. I traveled, you know, to Bangalore and other places where the other Motorola design center, but never made it to Tel Aviv. And I really wanted to do that as well. But. So in 2005, they were. Motorola was sort of collapsing, and I think they sold free scale off there. Had already done that, and they were starting now to. The enterprise group was acquired by a big New York firm. We had maybe a \$200 million business line that I was a part of. And, this other company was like, 2 billion.

Eric 4Z1UG

This is like the phone PBX business.

Dan N7HQ

This was the. The commercial foot, you know, phone wireless business.

Eric 4Z1UG

Come to me like Nortel, actually. Nortel is Canadian.

Dan N7HQ

Right, right. No, no. This was. They made. They made devices that. Wireless devices that you would do inventory with. Anyway, there was this big merger, and my choice was either move to New York or stay in or move to Chicago. I couldn't keep my office in Redmond because they were. They were going to close that or leave. And so I decided. I decided to leave, but. And it was just right when the economy started to take up, 2008, the recession. The recession hit, and so I started getting reimbursed in my amateur radio. And so one of the things that. That caught my eye, washing, rebuilding, I wanted to. I had always wanted to have a Heathkit SB-104 line up as a kid, and of course, they were. You know, HeathKit was long gone at that point.

Dan N7HQ

So I started rebuilding a SB 104 line. And I have. If you go to my QRZ page.

Eric 4Z1UG

Right now, I'm looking over your right shoulder, and I see a whole bunch of Heathkit stuff over there.

Dan N7HQ

That's my collection. And I have to say, it's. It's a complete SV 104. And by complete, I have every piece of SB 104 line gear, and even one that Heathkit never shipped as a. As a final product. They had a antenna tuner that was set up for that. That's actually kind of the pride of my collection, that. So I have a. An SB 104 antenna tuner that. It was never a production model. It was put out, sent out as a trial kit, and then they ended up killing the. Killing that product. But I don't know how many they made, but not very many. And I. And I have one of them.

Eric 4Z1UG

I think I've interviewed someone that may have the other one. I'll have to go back and look through that. What are you sitting in? Are you sitting in your garage, or do you have your own building? Because I see, like, a small garage door.

Dan N7HQ

Right. This is a detached. This is a detached garage, so I can make all the noise I want, not bother my wife at all. So it's a single. It's a single car. Long, single car.

Eric 4Z1UG

It's loaded with tools and parts and chemicals. And I. I see a 3d printer, actually. Is that what I'm seeing on the right there?

Dan N7HQ

No.

Eric 4Z1UG

Or is that your coffee machine?

Dan N7HQ

So that's my ice machine.

Eric 4Z1UG

Your ice machine. Well, you are in Texas, right?

Dan N7HQ

It's crunchy ice. And then the thing that looks like antennas on my head there, that's a circa 1970 craftsman table saw that I'm rebuilding.

Eric 4Z1UG

Oh, wow.

Dan N7HQ

So the tax that I have to pay here for, you know, collecting tools and things are doing projects in the house.

Eric 4Z1UG

Happy wife, happy life.

Dan N7HQ

Well, my wife's an interior designer, so she has refined tastes. And if she wants built ins or something like that, they're a little more. They're a little more than we can afford. But the, but building them is that way I get to increase the square footage of tool space. Right.

Eric 4Z1UG

I see hints of flex radio in your background there. How did you end up at Flex radio and what do you do for them?

Dan N7HQ

Before I get there, you asked once about automation. Is my house automated? So it is around 20, you know, 1011. I started tinkering again with home automation, and Amazon was starting to come out with something called Alexa. And so they hired me to come in and work in the Alexa home automation team. So I worked there for about three years, putting, helping to get a Alexa connected to different devices. So that's what I use in my house for automation.

Eric 4Z1UG

And now this mid show break every two weeks, I listen to the Ham radio workbench podcast with George KJ6VU, Vince VE6LK, Mark N6MTS, Thomas K4SWL, Michael VA3MW, and Rod VA3NDZ and their guests on often topical and important projects in amateur radio. This discussion amongst the regulars and their guests remind me of the conversations that I used to listen to on 146.94 and 146.46 MHz in Orange County, California, while working on my own workbench almost 50 years ago. It is amazing how much practical ham radio knowledge that we can absorb by listening to the Workbench podcast. That starts to make sense when we start our own deep dive into our own projects. So join me by listening to the Ham radio Workbench podcast now.

Eric 4Z1UG

And as George and crew push beyond 200 episodes, you can get to the Ham radio Workbench podcast by clicking on the banner in this week's show notes page. And now back to our QSO.

Eric 4Z1UG

But you're a very security conscious guy.

Dan N7HQ

Mm.

Eric 4Z1UG

This is my alexa. It's been unplugged for three years because I'm afraid of it. Should I be afraid of having an Alexa in my house listening to my conversations?

Dan N7HQ

So I've got nine around the house. They even have them outside. So, no, I mean, the bottom line, there's two things. One is that it is always listening, but it's not sending data to the cloud until it hears the wake word. Then it sends a data to the cloud. Now, could it? Yes. Right. So without a doubt it could. If some nefarious product manager at Amazon decided that they wanted to listen in on every conversation as something that could happen. But number one, you'd notice it because there would be this constant stream. I mean, you can take a network sniffer and put it on your network and you're not going to see anything until, from those devices until the wake word. But the biggest reason is because of the earned trust that Amazon must have.

Eric 4Z1UG

To be successful with the product. And it's still an active product.

Dan N7HQ

Still an active product, but just more so that the brand, because if it turned out that Amazon was listening and everybody's conversations and using that for any purpose, it would be, it would kill the brand. And so the fundamental reason why that doesn't happen is, one, that it would be wrong to do it, and two, that it would be a, you know, it would be suicidal for Amazon to take that approach.

Eric 4Z1UG

The fact that we carry cell phones and we're pretty, I think that we're pretty liberal with the kind of apps that we pulled down and put on from the app store. My father passed away in May and like, all of a sudden I started getting like, advertisements for cremation societies. And I'm thinking, well, where is this coming from?

Eric 4Z1UG

How do they know?

Eric 4Z1UG

And it's very possible that, you know, my phone with whatever apps are on it are listening to conversations I'm having or keywords or something.

Dan N7HQ

And I would, I can't speculate on how, you know, how they determine that. There's probably behaviors that trigger, you know, something when you search.

Eric 4Z1UG

I wasn't even looking. But all of a sudden, you know, from conversations and emails I'm sending to my brother and all of a sudden.

Dan N7HQ

I'm getting this, someone picked it up somehow. But you're right that the cell that, you know, everybody carries around a microphone and a camera.

Eric 4Z1UG

That's right. Right.

Dan N7HQ

And so if you're security conscious about, you know, one of the echo devices, put the phone in the.

Eric 4Z1UG

Drawer, turn it off. Right.

Dan N7HQ

This is probably more of a security risk than anything. It's essential to life. But. But that was fun.

Eric 4Z1UG

So you're using the Alexa's for the input. What are you actually controlling with Alexa does that?

Dan N7HQ

Right. So it. It's an integration, it's talking to the.

Eric 4Z1UG

Devices, like the switches.

Dan N7HQ

Yep, yep. So, you know, I can, you know, I can go, computer, turn on the. Computer, turn on the main light. So that integration occurred in the cloud. The Alexa back end talk to, in my case, it's a Leviton, you know, device that is controlling the lights. Computer, turn off the main light. So, so it does all of the communications with the devices and the manufacturers actually do the work to do that. Computer, turn off the main there when it was listening. Right. Computer stops. That's the end of that.

Eric 4Z1UG

I used to be in the low voltage installation business here in Israel, and everybody that has any money is buying home automation controls. But the only thing that's always lacking is the programming. There's no programming, so people have a lot of remote control switches. I always thought the whole purpose of automation is rather than break your hip as you get out of bed in the middle of the night to go to the bathroom, that as soon as you put your foot on the floor, the light goes on or it comes up at 25% so that at least you don't trip over the dog or something like that. And nobody does that.

Dan N7HQ

Well, no, that you can do that today easily on, you know, the Alexa or the Echo platform. Alexa platform, right. There's things that they call routines, and you can take the input of motion sensor, for example, and then do something with it, you know, do some work with that. So it requires probably more than the average consumer would be willing to commit to learning how to do that. But it's very possible, and I use them a lot here. One thing I've learned over the years with automation is that I've done a lot of crazy things. The least amount of friction or cognitive dissonance that you. That you give a user, the more successful it's going to be. And that all boils down to simplicity.

Dan N7HQ

So, you know, we have a routine called goodnight that my wife uses, and it shuts off all the lights and turns off the fan, sets back thermostat, and it's not on a timer or anything like that. She just says it and, you know, and the house responds and goodbye, or I'm home.

Eric 4Z1UG

If you lose your Internet connection, though, do you have any controls with no Internet connection?

Dan N7HQ

So that's the other big lesson learned, is that if it's only cloud controlled or only controlled through the voice interface or whatever interface you're using. That's. And the network is required other than the one that the devices use themselves, it's not a

good thing. So local control is very important. So, you know, all the light switches in this house anyway are still light switches in a wall. Right. That, you know, worst case you can just get up off your butt and I walk over to the light switch and turn it on or off. Right. So that's a big lesson is that for essential things like lighting or heating and air conditioning, you have to have local control. You can't be reliant on Internet or any other network for that matter, other than the device network.

Eric 4Z1UG

You're now in Texas.

Dan N7HQ

I'm now in Texas, yep.

Eric 4Z1UG

And how did you make that transition to Texas? What was the draw to Texas?

Dan N7HQ

Well, so there was, when I was still at Amazon, I was really interested in this product called the FlexRadio Power Genius or PGXL that I'd seen. Crazy thing about this industry is at least you know, about the products that are coming. Well before that they're shipped. Not like the Apple I, you know, iPhone or even. There was there, you know, there was no embargo against talking about new products. Some companies are a little more strict than others, but PGXL was one that was on, you know, like I saw pictures of it and saw people talking about it and I thought, what a great next amp for me for my hobby. And I was in Amsterdam at the time working for Amazon and I was considering leaving there and doing something different at that time. And the company that manufactured PGXL was based in Montenegro.

Dan N7HQ

I said, well, I'm not going to be any closer than that anytime. So I decided to go over and see the folks at 403 a skysat while I was in Amsterdam and kind of struck up a relationship with Renko and his son Dragosha there and agreed that I would be their rep in the US after I left Amazon. But when I started getting the product and looking at the PGXL was the one product that really needed to get out the door and they needed some programming help with it. I happened to have some skills in that area and started working on the firmware for the PGXL. And about that time I got very ill. I was, I had peritonitis. That was a pretty serious condition.

Dan N7HQ

And when I was in the hospital, FlexRadio offered me a job to come in and work and join the flex team based on some of the work that I'd done on the PGXL. And my interactions with them, which, you know, after you go through an illness like that, you sort of take stock of your life and make decisions about what you want to do. And that seemed like a really good choice and have the opportunity to join a small product company in ham radio to do that. So that's how I got hired and got here in 2019. So after I got out of the hospital and we packed up and then moved to Texas, and that's pretty much how I got here.

Dan N7HQ

But then flex radio started winning the attention of military and commercial products,

and they got the, were awarded the contract to be the design authority for a replacement for one of the radios inside larger Air Force aircraft. And ever since then, the company has really grown. And it seems like, you know, I landed in a spot where, you know, the products are accelerating, the company's growing, and so it's kind of like it's.

Eric 4Z1UG

Gone in a direction that they never.

Dan N7HQ

Thought it would go, and neither did I. I thought that I would be, you know, joining a company that, you know, had a good market and, you know, I had a good reputation and I didn't see a whole lot of growth in there in dealing with that. But now it's sort of like going to work for Microsoft or the Alexa team. So I find myself in the same kind of situation where there's lots of opportunity, lots of places where people can contribute. It's really a good place to work.

Eric 4Z1UG

Now, are you off today or do you work from home?

Dan N7HQ

No, I am actually playing hooky right now with you. Right.

Eric 4Z1UG

So, so I appreciate it very much.

Dan N7HQ

Well, no, I, we tried to do this for several months now, and it was like, really need to get to do that. But what I do here now is my official title is director of strategic Solutions, which is basically talking with customers and getting customers to acclimate them to our product and our API. And so it's real familiar territory for me. And it's really great because the kind of job I like are my best ideas ever in any product or anything have come with discussions from customers, every single one. You know, being able to take what customers say, knowing where a product is or a product line or roadmap is going, and being able to synthesize some direction or feature or something that would help both customer and product is just right dead center and target where I like to be.

Dan N7HQ

There's lots of opportunity here for that, and I've been thoroughly enjoying myself.

Eric 4Z1UG

I've listened to you a few times on the Hamready Workbench podcast, and I think the last time you were on there, you kind of ignited this idea in my brain. Like, could you put a flex radio inside a SB 104, for example? I mean, or I have a TS 520. Could you make a board that makes an electronic interface, serial interface, Ethernet interface from the front panel? So you get rid of all the electronics behind the front panel and put in a 6700, or, in fact, it doesn't even have to be in the box. It could be in your remote base station someplace.

Dan N7HQ

Well, funny you should say that. Right? I did that. Right? I did that with, you know, when I did the SB 104 rebuilding, I ended up with a lot of extra parts. I think I've told the story on the ham radio workbench, and I had these extra, you know, front panels and all the controls and the shells of the. Of all the gear, and I decided I was going to put an SDR radio inside of one of them, and that's what I did. So, again, looked at my QRZ page. You'll see two copies of an SB 104. One of them is stock refurbished, and then the other one is basically has a. It was an HPSDR from the tapper radio set of boards in it. And I really like that idea. I mean, it's. It would.

Dan N7HQ

I don't know if there was a business around that, but you could certainly see for people like me that really miss the user interface or the user experience of some of the older gear, maybe their favorite radio. Mine was the SP 104, but could.

Eric 4Z1UG

Be anything really like the Kenwood TS-520. It was the mechanicals. It's a tactile feel under your fingers.

Dan N7HQ

Right. Well, that whole experience, being able to tune. Tune through a dial, and it may not be digital. Right. So, no, I really like that idea, and I think that it'll be interesting to hear from your. You know, from the people that listen to this podcast if they're interested.

Eric 4Z1UG

I have a Yeasu FT-101 under my bench that hasn't worked for years, and it's kind of like, you know, maybe I should just pull that front panel off, and whether it's Arduino or Raspberry PI a to d converters, all this other stuff, it doesn't seem like it'd be that hard.

Dan N7HQ

It isn't. It wouldn't. No.

Eric 4Z1UG

To create an interface.

Dan N7HQ

Right. It would be. It would be an interface, and it wouldn't even need to be the same. You know, the front panel would be the same size, but the depth of the radio wouldn't be. You could have this thin facsimile of your user interface, although I don't know if it would give you the same, you know, look, if you, like, built.

Eric 4Z1UG

In a built in console or something like that, or it's kind of like, you can buy this deck ten interface with the Raspberry PI in the back.

Dan N7HQ

Right.

Eric 4Z1UG

Why not do that with radios?

Dan N7HQ

Well, with my background in automation and, you know, working, you know, working with hardware, it really is, would be a fairly simple thing to do. And with something like a flux radio that has such an extensive API behind it, you could really make it. I think probably some of your viewers, or viewers, some of your listeners are familiar with the maestro product we have, which is effectively the same thing. It's just, a. It's a fancy. You could do the same thing with your favorite, It'd be interesting to do it to a gold instead of gold dust twins, right? If you could. If you could build something that looked exact, you know, looked like that, there would be this.

Dan N7HQ

This radio that would weigh substantially less than, you know, than the model that it had, but you could get the same look, but then have that. That wonderful new SDR tech behind it. Not that the column stuff was bad at all, but you would have sort of state of the art innards and the retro feel of a user interface, which I think is an interesting dichotomy.

Eric 4Z1UG

Before we go, you're all over the Internet. We touched on some stories that people haven't heard, but is there something that you'd like to say to the QSO today audience about where you're at in ham radio or where you think ham radio is that will let them think a little bit beyond the interview? I always come away after listening to you on ham radio workbench and also on the ham radio workbench in general. I'm always thinking, oh, that's an idea. That's a project. What do you think?

Dan N7HQ

I think, you know, if anything, that I've picked up my life's work, which is kind of all over the map, has been, you know, stay curious, you know? You know, buying the latest radio is, you know, is. Is kind of the easy way out, I think, you know, I I don't look down on it at all. I'm. Heck, I'm plenty of new radios, but this particular hobby has so much more to offer to you, and you can go as deep or as shallow as you really want to. There's no pressure.

Eric 4Z1UG

You could make a QRP labs transceiver for under \$100 and be on the air in your local park, and then.

Dan N7HQ

The other thing would be pass it on. We talked a little bit about vocational education before we. We started the interview and how that has kind of waned over the years where people don't have that hands on experience that they can get. I really think that this generation of amateur operators has. Really has a mandate, an obligation. An obligation to pass it on and find the one student and, you know, that likes to go in the basement of the physics and chemistry lab and play with the electronics and learn. But we really need to start interesting, get kids while they're young, interested,

and expose them to it. You don't need to force them into it. Just an ex. Just exposure.

Dan N7HQ

I mean, I go back to when I was three years old and had that, you know, experience walking into the basement of my soon to be home and seeing all the lights and clerk clicks and buzzes and whirs that were going along in there, and that ignited something in me that has scared me to this day. And I think that kind of experience can be replicated. And like you said, I think there's an obligation that we have as a community to be able to pass that on.

Eric 4Z1UG

You have your apprentice. You mentioned it before we started recording. Tell me about your apprentice and how you've set the stage for him.

Dan N7HQ

So Asher is my grandson.

Eric 4Z1UG

I also have an Asher.

Dan N7HQ

You do?

Eric 4Z1UG

As a grandson? Yeah, he is.

Dan N7HQ

But my daughter. My daughter told me when he started showing an interest in the technical things, she called me one night and she said, dad, we found you one. So Asher comes and spends a couple hours a weekend with me, usually during the school year. And we have a variety of different projects. And my goal with him, really, to act as not necessarily an elmer, but just someone that will show him, expose him to a variety of different technical topics. Like this week's project, we're building a model rocket. So it's not all radio. I mean, he's put together a power supply.

Eric 4Z1UG

He has his own workbench, right?

Dan N7HQ

He's got his own workbench right back there. That's Asher's bench. And, you know, he can set up tools and, you know, and, you know, my job is just to put things in front of him and give him things to do with his hands in his mind that are not necessarily things that you learn out of a book. So we have shock rules. I think that discipline, you know, put things away after you're done with them, take care of your tools. I mean, those kinds of lessons that I learned from my grandfather and father, that I don't think a lot of. I don't think everybody gets that opportunity to do that. So I think that's. That's an obligation, right? It's not just my grandson that's really thinking about, you know, how you pass on what you've learned.

Eric 4Z1UG

I still have the lineman's pliers that I received when I was seven years old from my grandparents. I still have them. It's still in my toolbox and I still use them. And it's kind of like. It's a philosophy, it's a way of life. I'm so amazed. Osher's so lucky that he has a mentor like you, Dan. I'm envious. I, too, like having my apprentices at various times.

Dan N7HQ

He gets to see, experience other things that I'm rebuilding some old woodworking tools in the background rather than going out and buying something new. I'm refurbishing a table saw or a jointer or something like that I can use for other things. But I think, you know, it's kind of like a rescue puppy in some cases. You go. You, you go find these things that are just wasting away someplace that with just a little bit of TLC and.

Eric 4Z1UG

Some effort, it doesn't have to be a ham radio project. With my student, we rebuilt this Roland D 70 that's behind me. It's a keyboard synthesizer.

Dan N7HQ

I owned one that when I said I played keyboards, it was a D 70.

Eric 4Z1UG

It was the Roland D 70. I bought this and the keys didn't work. So me and my ten year old now protege took it apart. And I'd never taken one apart before. And I think I've even maybe told the story. But we've taken it apart. We've completely cleaned all the contacts. We're starting to put it back together. And he's now putting the keys on. He's ten years old and he's putting the keys on. I turned him, I said, "why do you think that people don't fix their own keyboards?" And he thinks, and he says, "because they think they can't."

Dan N7HQ

Yeah.

Eric 4Z1UG

I said, "well, what do you think?" He says, "well, I think I can". And I said, "well, what do you do if you get stuck?" He says, "you know, I would ask for help". And I'm thinking, YES!!, if I've taught him anything, it doesn't matter whether now.

Eric 4Z1UG

We have done four keyboards since then.

Eric 4Z1UG

I. Because we find him in the garbage, people throw things out. And so he now has one of the four. We've sold one. I guess what I'm saying is usually the roadblock for kids being able to do something extraordinary is this idea that they can't do it and that they possibly could fail rather than trying it and seeing that they're not going to fail and that if they feel like they're about to fail they can just ask for help.

Dan N7HQ

Especially today. I mean, you go to YouTube, you can find anything. I mean you got to weed through some of the garbage that's there. But the. But I mean, if you wanted to learn how to resole a shoe, I would guarantee you that there's going to be a YouTube video on that out there. And you name it and you have, I mean, talk about a. I mean, I wish I would have had this resource when I was.

Eric 4Z1UG

The first thing I did when I took that apart was one of the things with these synthesizers is you don't remove the clock battery.

Dan N7HQ

Oh really?

Eric 4Z1UG

Right. Because its entire programming disappears. So then I learn about that. You go on YouTube and you say, oh my God, I've lost all of. It's a keyboard but it no longer plays music.

Dan N7HQ

Right.

Eric 4Z1UG

Then you find out about midi and MIDI cables and stuff like this. So I borrowed a midi cable from another musician and I discovered that I could actually download from Roland the operating system for the. This keyboard's 30 years old, I think.

Dan N7HQ

Yeah, at least that.

Eric 4Z1UG

And I was able to reload it and it was all because you can go on the Internet. What did we do before? Well, maybe we threw it out or maybe we send it to a specialist.

Dan N7HQ

Or we called the company.

Eric 4Z1UG

Or we called the company. Yeah. And got on the phone.

Dan N7HQ

Got on the phone. So yeah, no, pass it on. Yeah, it's great. That's a perfect example.

Eric 4Z1UG

It's an attitude, I think what keeps people from Israel, the trash cans are a goldmine because nobody fixes anything. Much to my wife's chagrin. There's a whole attic full of stuff that she can't see. But she knows this. There of things I find in the trash that I know for some project they'll be usable. But I think that the majority of time, at least in this time, is people think they just can't do things and they don't even try. With our

apprentices, Dan, we can convince them and maybe they'll infect other people and say, well if he can do it, I can do it. Maybe we can create this virus of can do ism.

Dan N7HQ

I'm in. We oughta, we ought to make that a cuso today. People like to put the things that they've done up on a bulletin board someplace. It would be, you know, it would be interesting to be able to have, you know, like, there's lots of vertically oriented chat rooms where people will put up pictures of a lathe that they've refurbished or something like that. We could, you know, we could do the same thing for radios, right?

Eric 4Z1UG

And the wooden bowl they spun on it after they got it all done, right?

Dan N7HQ

Or the pen or whatever. Yeah.

Eric 4Z1UG

Dan, this has been such a great time for me. I'm so happy. It took a few months for us to kind of get it all together, but I'm so happy that we did, and it was such a pleasure talking to you. I hope that we can do it again sometime.

Dan N7HQ

Well, you know, anytime. I'm as you can probably tell, I don't have. I don't get tongue tied very often. So I just hope that people find this interesting and that you don't have to do too much editing.

Eric 4Z1UG

I don't think Ben will have to do too much editing at all. Thank you so much.

Dan N7HQ

Thank you, Eric. And, you know, and, you know, we. We are definitely thinking about you here. I think about you every day.

Eric 4Z1UG

Well, thank you. I appreciate all of the thoughts and prayers that people send because we need it right now.

Dan N7HQ

We all do. We're on the same ship, right. Whether we like it or not, you know, we're on this. We're on the same spacecraft.

Eric 4Z1UG

So that's exactly right. That's exactly right. And that's not to underplay at all of the other issues that seem to be confronting us now. So together, we'll win them over and we'll make our disciples one at a time.

Dan N7HQ

That's all it takes.

Eric 4Z1UG

Thank you so much, Dan.

Dan N7HQ

You bet, Eric. You have a wonderful day.

Eric 4Z1UG

You can sponsor the transcription of this episode or any of the previous episodes by clicking on the transcription button on every show notes page. The cost is dollar 75 per episode, regardless of the length. We will quickly transcribe the episode and give you credit for your sponsorship. Please send us the call sign of the podcast to make sure that we transcribe what you want. Remember that QSO today is value for value. Please support our project by making a donation or becoming a listener sponsor today. Use our Amazon link before shopping at Amazon as we receive a small commission on your Amazon purchases. Subscribe to our mailing lists, both my blog and the podcast, and forward the messages to friends and family who would enjoy QSO today.

Eric 4Z1UG

Content promote us on social media and give us a five star rating and reviews whenever you are asked. QSO today is available on every podcast, player and venue, including Apple Podcasts, YouTube, Spotify, and podcasting 2.0. Get a podcasting 2.0 player to make it easy to get your next episode as soon as we publish. My thanks to Ben Bresky, who as the consummate artist, makes this host and his guests always sound brilliant. Ben also publishes a weekly jewish history podcast. There is a link to that on the QSO Today home page.

Eric 4Z1UG

Until next time, 73.