

SEPTEMBER 2012

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



HF Digital

(A first time experience)

Don K6GHA

“Wow, now that’s cool! It reminds me of the movie ‘The Matrix’ with the colors and lines scrolling down the page”. I stood behind Frank (K6BDK) marveling at the fact that he was DXing with Hams around the world (even with his hearing impairment). Frank was showing a group of us how he keeps REALLY active in the hobby by using HF Digital Radio.

Frank then looked at me and said those important challenging words, “So, when are you going to go Digital?... it’s easy.” I shook my head, knowing that this was the next step I NEEDED to take, but fully aware that the learning curve could be steep, and I’d be adding to the lumps of hard earned knowledge on my noggin. Where to begin?

Well, I did the first thing I had previously found effective.... (Note, some might think picking up a book, getting online, or watching a video is a good approach), I immediately turned my sights to our local CAKE group (Coffee Assisted Knowledge Exchange) one Saturday morning and asked the loaded question: “Who knows about HF digital”? And never surprised, the discussion around coffee blossomed into an interactive audio tutorial about what to look at, where to start, what resources there are, and strangely a lot of folks saying “it’s easy”. Who was I to argue with this pileup of great free advice?

Ever a slow learner, I jumped at the chance and asked if anyone would be willing to help me cut some corners and ‘get digital’ (I still think this was the smartest thing I did this month). The person who had helped Frank also came to my aid. David (KG6IRW) said he would stop by for an hour and see where I was in getting my radio on the

air. So, prior to David’s arrival I did a little reading (yes... it really helps), configuring, and preplanning.

My goal was to get two parts of Digital working; RTTY (– Radio Teletype), and PSK31 (Phase Shift-Keying). These appeared to be some of the most popular modes of digital operation (behind CW!). There are a number of free and paid tools available for both modes, and this article is intended get you interested and not to evaluate them. Why should I take all the fun out of it?!

I previously had set up computer control of my radio with proper cabling for both audio and serial port connection. This is really the trickiest part and is dependent on the radio you have. I would highly suggest that you review any on-line user groups for suggestions and directions. I found that setting up HRD (Ham Radio Deluxe [free version]) and using their information on radio control gave me the software tools, instructions, and information for my radio type necessary to get started.

Within a few minutes of his arrival, some really fast keystrokes, opening a HRD application called Digital Master (DM-780) and some quick configuration (which I followed and understood, is all documented, but would have taken me hours), David was transmitting PSK test message out to the world. How did

A few Words of Appreciation

A wise man (or was it a woman) once said that women are not meant to be understood but to be appreciated. That being the case (and I neither confirm nor deny) I thought how much we owe to our ladies. Without any doubt they provide support and encouragement far out of proportion to their numbers. I think especially of Elaine (KE6FRA) who with Cap (KE6AFE) were the alternating Secretary-Treasurer duo who pretty much ran the club until recently. I recall welcoming Kathleen (KI6AIE) to our club meeting a few years back and how very fortunate for us she decided to stay. We should all take stock of what she does behind the scenes on our behalf; including getting Short Skip mailed. Now how about those Steinbruner ladies, Becky (KI6TKB) and Greta (KI6NTL)? For now Greta is pursuing her education but prior to that was in charge of our meetings. Becky is just full of powerful ideas and the organization skills we hams often lack. It must be in their genes! We are delighted to have Suellene (K6CPA) as a member and appreciate her focus on education. We are also fortunate to have as a member Linda (K6GRL) whom we well regard for her key role in the (K6LY) club. We fondly remember, and greatly miss, Mary Duffield (WA6KFA) who contributed so much. We should not neglect to acknowledge the understanding, support and indeed encouragement received from our wives and sweethearts. How very fortunate we men are and I feel safe to express our sincere appreciation on their behalf

—Ron W6W0

we know it worked? It was how he showed me that was cool +!

PSKReporter is yet another cool software tool to allow you to see the beacon reports, information, and activity around the world.

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Cake Crumbs

Cake Aug.25

A rather inclement morning but we were nice and cozy inside the Abbey. Rich W1WUH usually has a neat item to show but a Brand New AD9850 DDS Signal Generator Module 0-40MHz on Ebay for not much more than \$1. OK plus \$5 shipping but what a deal for anyone building a DDS VFO ! This particular IC has only recently been superseded so it is a very mod device. Thanks Rich

It was especially good to see OM Frank K6BDK ticking away nicely with his new pace-maker and to have Oliver KJ6LLD and Fred KJ600V back in town. Don K6GHA was watching a DX spotter on his tablet and showed live action. Tom KW6S reported more progress on his station automation project so we can expect to see the finished project soon. Ron W6WO showed his first attempt (now 5 years ago) at PC board layout. The 3x2 inch board has the complete hardware front end for a software defined radio. It receives signals off the air and uses quadrature mixing to generate I and Q signals for processing in a PC-based sound card. The reverse direction comprises a QRPP transmitter. Ron urged

those new to SMD construction to practice with a few devices and some scrap board. Both 0804 or 1206 dimensions will soon become comfortable. Things get a lot tougher as the sizes shrink.

Cake Sept. 8

What a beautiful morning and what a large diverse and talented group met at the Abbey today.

We were delighted to have Ralph (W6ENE) join us. Ralph brought photos of two remarkable vessels that he had served on. That of the MV Arcania taken in the early 60's showed a wide array of antennas including a Yagi (possibly a log-periodic) an 80 ft mast supporting a MF/HF disc-cone and a dish looking about 10ft diameter. Bob (K6XX) asked how was this dish kept pointed as the ship moved. Our resident mariner Vic (AE6ID) immediately responded with "probably some pretty strong servos" and so it was.

Coincidentally Don (K6GHA) came with some 1962 issues of QST. In the Feb. issue Ron (W6WO) found his old call (VS4RS) listed in the DX spots. Gary (K6PDL) admitted that any time he uses solder he gets a dry joint. That brought out a comment by someone that the best programming language is solder. Not sure who that was but it seemed to trigger a host of witticisms, the owners of many are well known but I will spare there names for now.

- As a kid I wrecked my mothers record player and so became a ham

- ARES is a liberal big-tent and we don't insist on total commitment

- Whoever does the work makes the techy decisions

- Learn by destroying

- By the time we think of something she is already doing it

- SCCARC functions like a talent agency

Cap (KE6AFE) handed out the new Disaster Service Worker badges and we congratulated Gary for being a new recruit.

Cap and Reed (N1WC) reported on the very interesting talk given at the SLVARC meeting by Glen (KGOT) and Warren (NROV). Their topic was Software Defined radios, what they have under development wasn't made clear but they apparently are looking for some programming talent. Tom (KW6S) reported that his station controller was up and running and he already had an idea on how it could be improved, Tom had used many LEDs that were made by HP in the 50's. Tom had rescued a large number of these form being dumped. Speaking of dumping Tom said he wanted to know where to find a Mirage Wattmeter. An anonymous voice piped up "try the Morgan Hill City Land Fill"

One member had posted a note about seeing only a SWR value of 1:1 with respect to his mobile radio and screwdriver set-up and knew this was wrong. We discussed some possibilities that probably should begin by being confident of his measuring technique.

Cap and Gary reported on the 50 ft of Rohn 25 tower that we have for use at the K6BJ repeater. Does anyone know where we might find a base plate ? Bearing in mind my buddies in KY have a very simple answer for a hinged base I wondered if anyone here might feel able and willing to make one. Bob had brought along a very neat USB/soundcard dongle for use with is tablet PC.

There were some comments about deliberate interference on 20 and 40 m, apparently coming from China and targeting some of the HF contests. Tom commented that he far prefers RG316 over RG174. With Teflon dielectric and silver plated conductors one can readily appreciate why. It also comes in a double shielded form.

Ron (W6WO) mentioned his recent interest in the Weak Signal Propagation Reporter (WSPR) pronounced whisper. This program comes from the stable of world-leader Joe Taylor (K1JT). It demonstrates the amazing ability of QRPP communications and should be of special interest to builders of SoftRock radios. QST Nov. 2010 has an introductory article on WSPR. We discussed the require-

HF BAND CHART

Band (m)	Range (MHz)	Best DX	Other Characteristics
160	1.8-2.0	Night	Challenging "Top Band"; high power often used to counter noise
80	3.5-4.0	Night	Excellent regional band; many CW and SSB nets; AM ~3.87
60	~5.3-5.4	Night	Shared with government services; power level and modes restricted
40	7.0-7.3	Night	Excellent local CW/SSB band by day; QRP and data modes, 7.03-7.04
30	10.0-10.15	Both	DX possible anytime, no contests
20	14.0-14.35	Both	Very popular DX and contest band; many nets on SSB; Data modes; PSK31 ~14.070; RTTY ~14.085
17	18.068-18.168	Day	Long haul DX band; no contests; "HF Pack" at 18.1575 (often QRP)
15	21.0-21.45	Day	DX/contest band; low power very effective when band is open
12	24.89-24.99	Day	Excellent DX band; no contests
10	28.0-29.7	Day	Great DX band when open; CW beacons 28.2 28.3; FM 29.6-29.7
6	50-54 (VHF)	Both	Active night and day during rare DX openings; some FM repeaters



By Art Lee WF6P

CHATTER

I had lunch at Rocky's Cafe in Felton a few days ago with Leon Fletcher, AA6ZG, and Dick Mack, W6PGL. While talking about old-time radio, Dick Mack mentioned that he took Radio Shop from Frank Kasmaric at Santa Cruz High School. Dick got his ham license in 1937. A year before, Vernon Berlin, W6JCZ, established the first Santa Cruz police radio on 160 meters. Vernon operated a radio repair shop before becoming owner of radio station KSCO. Many California high schools had radio shop classes in the 1940s, including my own Hayward Union High. My shop teacher was Clarence W. (CW) Nelson. I took his classes for three years, enough to get me into the Navy's ET school at Treasure Island. I mentioned to Dick that a couple of our texts (of many) were Cooke's Mathematics for Electricians and Radiomen and Terman's classic Electrical Engineering volume. Dick graduated from UC Berkeley and as a navy ensign, worked or studied with both men at the Naval Research Labs.

During WWII Leon was a navy communications officer, also an ensign. He served aboard a Landing Craft Infantry, Rocket (LCI-R). He made every amphibious landing on Pacific islands except one. When off Corregidor one night, he attempted to carry a spare radio transmitter up a ladder to the bridge. Every time he started to climb, a Japanese machine gunner on the beach opened up on his ship. Leon eventually

Cake continued

ment that your computer clock must be accurate to within +/- 1 second and the frequency stability of your radio be better than +/- 1 Hz per minute. Some radios would certainly not be that stable without an internal temperature controlled DDS source.

I suspect this is the longest record of a CAKE meeting and I am certain that i has missed quite a lot.

73 to all

Ron W6W0

succeeded but said, "I don't guess he was actually shooting at me, but at the time, it certainly felt that way."

I recently received a note from club member Pat Henry, WA6PKM, living in Gold Beach, OR. Pat was happy with his "new" receiver. He said, "Art, please excuse my bragging but I recently bought a hallicrafter s-41g rx for \$25.00. It was sitting on a shelf in a thrift store in Port Orford. Wow. I got a s-20r for \$20 at a yard sale when I was living in Freedom. I have many "boatanchors," but my sx-28 is the favorite. Also I need to get reconnected with the k6bj reflector. I really enjoy getting the club e-mail."

I congratulated him for the acquisition of his new toy. I'm not familiar with the S-41. A few years back, Dan Anderson overheard me say I had a Halicrafters S-20R in high school when I was trying for my ham license (1944/5). We couldn't get on the air back then, but could get our ham tickets anyway. I was working on the code, listening over my S-20R. Dan found a mint-condition S-20 R for \$50, which he picked up for me. My original rig was at my parents' house in Ben Lomond until I got married in 1952. For a few years it was the only radio my wife and I owned. Eventually we sold or gave it away, much to my regret. However, the replacement works fine.

I received a surprise email from Galen White, KE6YPM (ex-W6FYF). He and I attended Mr. Nelson's classes at Hayward High. Galen picked up my Chatter column on Bee PDF. I don't know what that is, but it helped unite us two old classmates. Galen came in at the time I left to join the Navy, but the instructor and classes were the same. I worked Clarence Nelson (SK) in the early 1980s on 40 meters once. Until then, I didn't know he was an amateur radio operator. Interestingly, Galen joined the USAF and served in communications, then went on to a 32 year career with Hewlett-Packard as a test technician.

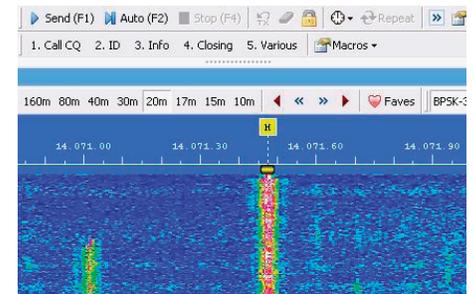
I was sorry to learn that George Fisk, K6TAM (SK), passed away. He was our club President in 1980 when I was Secretary. George set up a twelve-week course for Novices. We had several volunteer instructors including Sal Basile, N6WSR, who taught the antenna phase. Gene Piety, KH6PP, an ex-Navy radioman, taught code. With no established classroom, we met at a different location every week! We graduated over a dozen Novices.

HF continued

If you would like to know more about it there is a good article on eHam.net at <http://www.eham.net/articles/21157>, which gives details and reviews.

About 15 minutes after sending a few test messages, there I was on the map, being shown where other stations had seen my transmission. THANK YOU DAVID!!!

Mission accomplished? Not quite. The other driving desire about 'going digital' was to fulfill my contesting fix. Yes... that was another underlying reason for going digital. I admit it. There has been a big push in the NCCC contesting community this year to add RTTY to your game. However, there was more to learn in interfacing all of the above to N1MM's contest tracking software. I was one week away from an easy RTTY contest, but again found myself in a pickle on how to make it work. So, again I asked a simple question, "How do you get RTTY to work with N1MM?"



And I got the answer I was looking for... It's Easy! Ok, maybe not in those words, but Bob (K6XX) said something to the effect, "I use the name Homer when I contest in RTTY, because it takes about a doughnuts worth of effort once you get things set up right". He then gave me the keys to the contesting kingdom by pointing me to videos and documentation located on the NCCC (members only part of the) web site, and key NCCC mentors for RTTY. The videos are the boiled down versions of what is documented the N1MM user manual and best contesting practices. NCCC videos really stepped me through the setup (with N1MM, WinTest, or WRITELOG software), contesting best practices, and best of all a support group for aiding my addiction. That weekend I was up and running making Q's... and yes, eating doughnuts and pounding function keys just like Homer... Doh!

So, was going digital easy? Not really, it takes time, effort, and learning, that usually doesn't come easy.

So, was using digital easy? Yes, and fun too! QRP or higher powers, it opens up radio communications.

So, was getting digital help easy? With some of the best operators, engineers, clubs, club members, and friends it was not only easy, but an enjoyable way to learn something new. I am indebted to all those who said IT'S EASY, and then took the time to showed me how easy it was, if not for them I'd still be scratching my head and reading.

Continued next page

SCCARC Board - 2012

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MONTEREY BAY REPEATER ACTIVITY

Santa Cruz County	K6BJ 146.790- PL 94.8 Santa Cruz (linked to K16EH) K16EH 147.945- PL 94.8 Watsonville (linked to K6BJ) K6BJ 440.925+ PL 123.0 Santa Cruz (not linked) K6BJ D-Star 441.675 +5MHz (D Star link: tinyurl.com/dstar-sc) • SCCARC Net Monday 7:30 PM 146.79- /147.945- /147.180+ linked • SCCARC 10 Meter Net Monday 7:00 PM 28.308 MHz USB
ARES Net	SC County Wide ARES Tuesday 7:30 PM on 147.180+ PL 94.8 and 443.600+ PL 110.9 linked
San Lorenzo Valley	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLV Net Thursday 7:30 PM
Loma Prieta	AB6VS 440.550+ / AE6KE 146.835- PL 94.8 (linked for net) • LP ARES / LPARC Net Tuesday 7:15 PM
Monterey	K6LY 146.97- PL 94.8 / 444.700+ PL123 (linked for net) Monterey • Monterey Co. ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.8) • NPSARC Net Wednesday at 8 PM on K6LY/R
LPRC	WR6ABD 146.640- PL 162.2 / 442.900+ PL 162.2 (winsystem.org) • LPRC Net Tuesday 8:00 PM 146.640-(PL 162.2) • Amateur Radio Newslines broadcast Tuesday

• Santa Clara Valley Section Traffic NET Tuesday 9:00PM 146.640- (PL 162.2)

FOR MORE INFO SEE: <http://www.k6bj.org/freq.html>

SCCARC Calendar of Events

ARES Meeting (prior to club meeting)	Friday	Sep 21
SCCARC Meeting	Friday	Sep 21
Cake Meetings	Sat	Sep 8, 22
Board Meeting	Thurs	Sep 27
Short Skip articles due	Mon	Oct 8
SCCARC Meeting	Friday	Oct 19

MONTHLY MEETINGS.

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meetings are at Dominican Hospital, Education Center, 1555 Soquel Drive, Santa Cruz.

Net Control Schedule:

9/17	Chris KG6DOZ
9/24	Lou KJ6CAI
10/1	Phil KE6UWH
10/8	Keith KJ6TXJ
10/15	Tom K6TG

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Santa Cruz County Amateur Radio Club, Inc.
Post Office Box 238, Santa Cruz, CA 95061
Editor: Ron Baldwin, k6ext.santacruz@gmail.com
Columnist: Art Lee, WF6P
Writer: Ron Skelton, W6WO

HF continued

Here are my best references to get you started, and remember... IT'S EASY!

- HRD (Ham Radio Deluxe) <http://www.hrdsoftwarellc.com/downloads/default.html>
- RTTY for Beginners: <http://www.iw5edi.com/ham-radio/26/a-rtty-tutorial-for-beginners>
- Getting Started with RTTY: <http://www.aa5au.com/rtty.html>
- MMTTY : http://www.aa5au.com/gettingstarted/rtty_downloadmmtty.htm
- PSKReporter: <http://pskreporter.info/pskmap.html>
- eHam.net PSKReporter review: <http://www.eham.net/articles/21157>
- NCCC : <http://nccc.cc>

Note: There is also a good article in the October 2012 QST about DX spotting networks



SANTA CRUZ COUNTY AMATEUR RADIO CLUB
P.O. BOX 238
SANTA CRUZ, CA 95061-0238

Brit humor

American archaeologists dug to a depth of 20 feet before finding traces of copper wire. Shortly afterwards, they published an article in the New York Times saying : "American archaeologists, having found traces of 250-year-old copper wire, have concluded that their ancestors had advanced high-tech communications"

The British Archaeological Society of Northern England reported the following: "After digging down to a depth of 33 feet in the Skipton area of North Yorkshire in 2011, Charlie Hardcastle, a self-taught amateur archaeologist, reported that he had found absolutely bugger all. Charlie has therefore concluded that 250 years ago, Britain had already gone wireless."

—W6WO