



MARCH / APRIL 2001

REMARKS

www.marc-radio.org

2001 DUES ARE PAYABLE NOW!

The MARC membership year begins March 1, so it's time to pay dues. Paying promptly means we don't have to pester you about it. A membership form is enclosed or e-mailed for those whose dues haven't been received yet.

By being a dues-paid member of MARC, you contribute to the health of ham radio in the Philadelphia suburbs. You support 3 voice repeaters, this newsletter, the Web page, Field Day, and the holiday party. You promote self-improvement and continu-

ing education because members can take tests at one club-sponsored license test session per year free of charge ... the club pays the fee. Your club does public service communications, encourages participation in ARES/RACES, and hosts 3 message-handling nets every week. Your club sponsors one of the few hamfests in southeastern Pennsylvania.

If you have already paid 2001 dues, thank you! If not, please do it now, so you and MARC can keep up the good work.

JUNQUE AUCTION IS MARCH 20 MEETING PROGRAM

Bring in the ham radio stuff you don't want any more, stuff you don't remember what it is, stuff you don't know why you bought it in the first place, stuff for that project you never built, stuff you couldn't bear to throw away ... and sell it at the MARC annual Junque Auction. Even if you don't want to buy or sell anything, the auction is always good for laughs.

The ground rules are simple: (1) Ham and ham-related equipment only (2) Only MARC members may offer items for sale—no dealers, please. (3) MARC receives 10% of the sales price, or \$10, whichever is less. (4) Tag items with your name and callsign (if any), the minimum acceptable price, and what the item is. (5) Take home any unsold items. NO DUMPING! (6) All

items are sold as-is. MARC gives no warranties or guarantees, implied or otherwise, regarding items offered for sale. The club and the auctioneer(s) will not be liable for any problems arising from sales. (7) Bring no more than 3 items to sell, so all can have a chance to participate.

People are looking for small stuff and bargains. Leave the \$500 rig at home. Bring some small bills or a checkbook. Any questions should be directed to President **Steve N3ORH**. The auctioneer will be **Bart K4BF**, who's funnier than anybody this side of the Car Guys. Non-members of the club are very welcome to come and buy stuff, or just enjoy the festivities.

AVIATION EXPERT HEADLINES APRIL 17 PROGRAM

Our April speaker will be **Louis Berman**, Research & Development Flight Operations Manager at the FAA's William J. Hughes Technical Center at Atlantic City International Airport. His responsibilities include the scheduling of aircraft and flight crews for R&D missions, maintenance of pilot certifications and training, and the safety and airworthiness of the aircraft.

He's going to tell us about the FAA and the activities at the Technical Center, including what goes on at the flight test area.

If you have friends who are pilots, bring them to this meeting. If they are not hams, they'll enjoy the speaker, and we can introduce them to ham radio.

SPRING PUBLIC SERVICE CALENDAR

Volunteers are needed for the MS Walkathon in Downingtown on Sunday, May 6. You need to be there by 8 AM. People who would like to help at this event should contact **Bob N3JIZ** (610-687-4587) to get details and sign up.

We'll communicate again for the Radnor Township Memorial Day parade on Monday, May 28. There will be a Tel-Hai 5 Mile Run also, but we don't know the date yet. Contact Bob for information about these public service events, too.

No previous experience is required ... just some VHF equipment and the desire to serve the community through ham radio.

FIELD DAY JUNE 23 — 24



This is being written on February 22 (*18 years to the day after I passed my General test and went on the air for the first time, but you don't care about that, do you?*) and snow is falling abundantly on Paoli.

It seems premature to be talking about Field Day. However, time passes faster when the weather doesn't stink. Once spring drags itself into the Delaware Valley, Field Day will be upon us before we know it. **Susan K3SUE** has volunteered to chair Field Day 2001. What would you like to do, and how would you like to help? Start thinking, and starting talking with Susan.

25 Years of Service and Fun through Amateur Radio!

ABOUT MARC

wb3joe@marc-radio.org
http://www.marc-radio.org

MEMBERSHIP MEETINGS

3rd Tuesdays, 8 PM, Radnor
Township Building, St. Davids.
Guests welcome. Smoke-free.
Handicapped-accessible.

BOARD MEETINGS

4th Thursdays, 7:30 PM, Paoli
Hospital. Members may attend
as observers.

SYSTEMS

145.13/R, 147.06/R, 224.42/R
Webmaster: Steve N3ORH
(610-313-8080, smaslin@fast.net)

NETS

Club Net, Sundays, 8:30 PM
Traffic net, M/W/F, 8:30 PM
All nets on 147.06
Net Manager: Carter N3AO
(610-993-9623, n3ao@arrl.net)

DUES

\$15 Full (licensed Amateurs)
\$5 Associate (unlicensed persons)
Family rate \$5 per ham after first
member pays full dues.

NEWSLETTER

REMARCS is published in the odd
months, edited by Kay WT3P
(610-993-9623, wt3p@arrl.net)

BRING A FRIEND
TO A MARC MEETING!

“OLD RADIO” BUS TO BE AT MARC HAMFEST 2001

John Dilks K2TQN plans to bring his old-time ham station back to MARC's hamfest. Housed in an old school bus, the display was enjoyed by hundreds of people at our 1999 hamfest.

John conducts the very popular “Old Radio” column in QST. Stepping into his bus really is like time-travel.

If you know people who are interested in antique wireless, bring them to the MARC hamfest to see this. John has equipment, books, QSL cards ... and it's set up as a station, not just shelves of assorted stuff.

You'll enjoy John's Web page at www.eht.com/oldradio/.

The Old Radio Bus is yet another reason to be at the MARC Valley Forge hamfest on July 15, 2001!

VOX

Welcome new member **Joe KB3FXZ**. **Phil N3RX** is now on DXCC Honor Roll for both SSB and mixed modes. **Dieter WB3JWU** earned Millennium DXCC and also CW Worked All States. He's waiting for his 10m DXCC certificate. **Dan W3DI** is the former **NM3S**. **Ned WQ3Z** is training officer for Montgomery County RACES. **Bob WA3PZO** was appointed to the ARRL Public Relations Committee. **Floyd KA3OXA** celebrated his 50th wedding anniversary. **Kay WT3P** spoke on public service volunteerism at the ARRL Florida State Convention in Miami. **Carter N3AO** appreciates all the good wishes you sent during his treatment for prostate cancer. **David KB3CRY** enjoyed a QSO with a ham in Iceland, since he was stationed up there in the service. **Gene WB3FTJ** upgraded to Extra, and **Bob N3JIZ** upgraded to Tech + HF. **Dennis K3DS** spoke to the Pack Rats about software-defined radios. **Foster K3FXS**'s talk on satellite operation at the February meeting showed how it's easy to have fun with the birds. **Judy N3MBW** and **Gene WB3FTJ** remind us to install carbon monoxide detectors in our homes; when their furnace malfunctioned this winter, their detector may have saved their lives. We ran into early-years member **Ed Pennington K3YTR**, who hosted the first MARC Field Day at his house in Lionville. Anybody remember operating while sitting in Ed's back-yard boat?

MARC LICENSE TEST SESSION REPORT

Six candidates were served at MARC's February 3 test session. Upgrades included 2 Extras, 1 General, and 1 Tech + HF, in addition to one new Technician. The examiners were **Bob W3ZQN**, **Bob KA3NIQ**, **Susan K3SUE**, **Bob W3SA**, **Walt WA3PPW**, and **Dick K3ITH**, with **Tom K3YPO** handling logistics. The next MARC test session will be Saturday, May 5. For information and pre-registration, contact **Bob W3ZQN** (rjlees@aol.com, 610-265-6032).

BOARD MEETING HIGHLIGHTS

At the January 25 meeting, the board heard a report on the repeaters. Future public service events include the Radnor Memorial Day Parade on May 28, the MS Walkathon on May 6, and the Tel Hai 5 Mile Run on a date to be announced. A letter from the Red Cross thanked us for communications at the Radnor Run, and we have been invited to assist at the event in 2001. The hamfest and Field Day were discussed. A suggestion to establish an official simplex frequency will be offered to the members for input. Surplus club equipment will be posted for sale on the Internet. Future program ideas were discussed and will receive follow-up. The holiday party cost just over \$200. The treasury balance was \$8,232.60.

The February 22 board meeting was cancelled owing to a snow storm.

MEMBER INPUT FROM YOUR RENEWAL FORMS

“Link ‘13 and ‘06.” That's the plan, but winter isn't the time to do roof work. Also on the list is reviving the 224.42 repeater. “Any plans for a pin or certificate for the 25-year anniversary?” No, but it's something to consider. “I'm hard of hearing. How about amplification for the programs at club meetings?” We'll look into it ... meanwhile, please try sitting as close as possible to the guest speaker. “How about a program on Radnor Township police communications?” We'll find out if the police would like to do a program for us.

WANT TO RUN A DEMO AT MARC'S HAMFEST?

How about a demonstration at the hamfest of ham radio modes that not everybody has seen? For example, we could present Amateur TV, APRS, satellites, microwave communications, and/or HF digital modes. It all depends on having people who will take charge, bring all the stuff, set it up, and present the demonstration. Or would you like to organize a QLF contest or a code-copying challenge booth?

Contact **Mike KF3CD** (mpilotti@anro.com, 610-935-4429) to talk about what you might like to do to make our hamfest more informative and more fun.

FROM THE EDITOR'S JUNK BOX

As a result of de-regulation by the new administration, standing waves can sit down, Ohm's Law is Ohm's Just A Real Nice Idea, and oil-drilling will be permitted in electromagnetic fields. On the other hand, new regs prohibit spending any federal money on projects involving alternating current.

After a rainstorm this winter, we had some water in the basement ... where the shack is located. Surveying the smelly mess, I spotted a power cord connected to an extension cord, with the plugs resting in a big puddle of water. I set up the dehumidifier and we didn't touch a thing near the puddle until the floor was bone-dry. Then we got those plugs up off the floor.

Which leads me to ask: When was the last time you looked at your shack, asking yourself how something could go wrong and create a danger to you and your family? "An ounce of prevention is worth a pound of cure," they say, and if the danger is potentially lethal, an ounce of prevention is worth your life. Please check out your shack and workbench area. If you find something really dumb, like my plugs on the floor, you don't have to blush. I'm obviously not in a position to criticize!

I sincerely appreciate your cooperation in filling out membership renewal forms, even if none of your information has changed since last year. Keeping the records accurate for a club this size takes some doing. Having the paper forms on file as a double-check helps the treasurer and me do a better job for you. Please don't bite David's head off when he asks you to fill out a renewal form, unless you would be willing to be treasurer or membership chairman if we got fed up with the attitude and walked away.

Have you tried MFSK16, the new digital mode described in January QST? On pages 6 and 7, this issue of *REMARCS* highlights HF digital modes as enjoyed by some of our members. Also, I put some pictures and links on my personal Web page for you. Members who have other ham radio enthusiasms are encouraged to contact me so we can work up a future section spotlighting your favorite side of the hobby. — **73 de Kay WT3P**

HAMFEST PLANNING BEGINS

The first 2001 hamfest planning meeting was held on January 28 at **Mike KF3CD**'s house. **Bob W3SA**, **Bob N3JIZ**, **Bill W3KRB**, **Dieter WB3JWU**, and **Kay WT3P** were there. We need one or two people to work with Dieter on talk-in. Ideally, they should be familiar with the Kimberton / Phoenixville area. Any volunteers? **Dieter WB3JWU** has donated a microphone for the PA system. We're working on reducing the expense for the PA system.

We urgently need members to take flyers to other hamfests: Warminster, May 6; Bloomsburg, June 9; Wilkes-Barre, July 1; Harrisburg, July 4. **Bob N3JIZ** has volunteered to take some to Penn-Del's hamfest in New Castle on April 29. If you belong to other high-tech hobby clubs (model aircraft, model railroad, computers, etc.), please get flyers from Mike and take them to meetings. Also, see page 7 of this issue for another hamfest-related story. Contact Mike (mpilotti@anro.com, 610-935-4429) if you can help with any hamfest task.

PA QSO PARTY RESULTS

Just 2 entries from MARC members appear in the 2000 PA QSO Party scores posted on the contest Web page, www.qsl.net/narc/paqso.htm. **Steve K3KFD** appears to have won Montgomery County, with 166,639 points. Congratulations on a fine effort! The multi-operator single transmitter entry of **N3AO** (ops **Carter N3AO** and **Kay WT3P**) had 132,859 points and was high score for Chester County, but the top single op gets the county winner certificate. That's as it should be. How about more MARC players in 2001? Ask Steve, Carter, or Kay for information on how to do it.

BOARD OF DIRECTORS, 2000-2001

PRESIDENT

Steve Maslin N3ORH 610-313-8080
smaslin@fast.net

VICE PRESIDENT

Bart Feroe K4BF 610-367-4288
k4bf@arrl.net

SECRETARY

Bob Haase W3SA 610-293-1919
rhaase@bellatlantic.net

TREASURER

David DePizzo KB3CRY 610-630-0129
del131@msn.com

MEMBERSHIP SERVICES

Kay Craigie WT3P 610-993-9623
wt3p@arrl.net

PUBLIC RELATIONS

Bill Owen W3KRB 610-325-3995
gem@op.net

PUBLIC SERVICE

Bob Palin N3JIZ 610-687-4587

TECHNICAL

Dennis Silage K3DS 610-353-4829
silage@vm.temple.edu

PROGRAMS

MEMBERS-AT-LARGE

To 9/30/2002: Al Maslin N3EA 610-446-4936
amaslin@earthlink.net

To 9/30/2001: Janet Vann KA3VTQ
610-384-3163, jvann@ccis.net

CALLSIGN TRUSTEES

WB3JOE: Al Maslin N3EA 610-446-4936,
amaslin@earthlink.net

W3NWA: Kay Craigie WT3P 610-993-9623,
wt3p@arrl.net

RECIPROCAL LICENSING INFO
IS ON THE WEB

USA hams planning to vacation abroad this year will find it easier to obtain permission to operate there. Ham radio operation from several countries is now a reasonable goal — even for short trips. However, you need to do some homework before you go.

Operating in Canada requires no paperwork, but be sure to learn the rules on how to ID legally.

The European Conference of Postal and Telecommunications Administration (CEPT) Amateur Radio licensing system grants US hams instant reciprocal privileges in some (but not all!) European countries. The protocol requires you to carry three documents. You'll need a copy of FCC Public Notice DA 99-2344 (available at <http://www.arrl.org/FandES/field/regulations/io/cept-ral.pdf>), proof of US citizenship, and your FCC-issued Amateur Radio license.

The International Amateur Radio Permit is another special licensing arrangement. It applies to certain

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BACKWARD GLANCES

Clips from March & April Newsletters 1977—1989

1977

One of the membership representatives on the board was **Bob W3NWA**. The club was thinking about doing Field Day. The N3 callsigns were a novelty.

1978

Hams helped during a February blizzard that dumped over a foot of snow on the Philly area. **Bill W3YSZ** was president and the newsletter was edited by **Marlene WA3UOC**.

1979

Jack AB3T and **Vince WA3ADI** were new members. The March program was about AMSAT.

1980

147.06/R signed **WR3AKR**, but 145.13 signed **WB3JOE**. **Bob WA3PZO** returned as newsletter editor. There was lingering excitement about the Olympic Torch Run, which had involved several MARC members. **Bob W3NWA** gave a 10-minute talk for new hams on how to have a CW QSO.

1981

Don WB3AYT was president. The March program was about computers. The FCC moved license exams from downtown Philly out to Langhorne. MARC's first hamfest was in the works.

1982

Jeff WB3KNB was president. MARC members were sometimes deputized by the FCC to administer license exams to people unable to travel to the FCC office. Tests were given 2 mornings a week at the FCC office.

1983

MARC took part in a hobby show at the Marple-Newtown Library. The FCC invited comments on its proposal to have a no-code ham license (the idea went down in flames). **Paul WA3YZL** was selling his Model 28 teletype set-up.

1984

AI W3DZI (pre-**N3EA**) was president and **Ned KA3EQT** (pre **WQ3Z**) was VP. The fall '83 Novice class of 16 got their callsigns. Public service events: PCOM run, Bux-Mont Riding Club event. **Steve WA3EYD** upgraded to General. Amateur license exams were given by the

FCC in Langhorne during just 1 week per quarter. Tests were by appointment only; the FCC chose the day and time.

1985

We held our first meeting at the library in Wayne. Novice class grads included **Edith KA3NKP**, **Fred KA3NKK**, and **Rob KA3NKV** (pre-**WJ3S**). We were ordering MARC windbreaker jackets. **David KA3HBK** was traffic net manager. **Bob WA3PZO**, **Tom K3YPO**, **Jeff WA3RIZ**, **Edith KA3NKP**, and **Carter KA3IME** (pre-**N3AO**) helped the Red Cross at an apartment fire in Ardmore.

1986

A new thing called packet radio needed explaining ... most hams still thought the packet bursts on FM simplex were cable TV leakage or other occult gob-bidge. **Dave KA3FVB** was president of the Mobile Sixers. **Doug N3ENU** upgraded to General. The 147.06 repeater was still the place amplifiers went to die.

1987

Two new club members were **Bill W3KRB** and **Bob W3ZQN**. **WB3JOE** packet BBS was on the air. Novice Enhancement went into effect March 21, controversially giving Novices and Techs voice privileges on 10m HF. Editor's comment: "Grouches, snobs, know-it-alls, show-offs, and old fogeys of all ages: kindly cork it."

1988

John WB3ELA was president. **WB3JOE** packet BBS moved to Paoli Hospital from John's house. The FCC took 6 to 8 weeks to issue new Novice licenses. "Did you hear about AM-SQUAT, the organization for Amateurs who just want to sit there and take up space?"

1989

Hams could operate on 17 meters for the first time. MARC members scored 109,594 points in the 1988 PA QSO Party. **Phil NC3C** (pre-**N3RX**) earned Worked All Zones CW, and **Bob WA3PZO** was working 75 meter DX all over the world. Some Associate members were learning CW at the home of **Kay KC3LM** and **Carter KD3AO** (pre-**WT3P** and **N3AO**).

K-1, PART 2

Building the Elecraft K-1 2-band QRP CW transceiver took me through working with just about every kind of electronic component, including winding bi-filar toroids ... tell me how come with only 10 fingers I felt like I had 12 thumbs?

Amazingly, the final test outputs were all within spec. I say "amazingly" partly because I did so much of the construction work and also because the S-meter did NOT work. Elecraft is careful to have you test things as you go, in addition to the final test procedure. It beats me why all the tests came up OK, but the S-meter was mackerel (as in, "deader than a"). Equally mysterious is why the meter decided to start working weeks later.

Everything else on the little rig worked fine from the start. **Carter N3AO** made both domestic and DX contacts right off the bat. He soon noticed that the AGC is slow. A loud signal wallops your ears before the AGC kicks in and moderates it.

This is nowhere near the kick-butt QRP radio that the multi-band CW/SSB K-2 is. It wasn't meant to be. Heck, it only weighs one pound six ounces! Size-wise, it's only about 5 x 5 x 2.5 inches.

The rig was interesting to build, but it's not for a beginner unless, like me, you have an experienced builder to guide you.

Carter's already making plans to take the K-1 on hikes and camping trips next summer. My idea of roughing it is a hotel room without a hair dryer, so I'll stay at home. Hey, maybe I'll build another kit!

QST reviews the K-1 in the March issue.

ARRL VICE DIRECTOR TO VISIT OUR AREA

ARRL Atlantic Division Vice Director **Bill Edgar N3LLR** will be at the Penn-Del Hamfest / Delaware State ARRL Convention in New Castle on April 29.

You'll enjoy meeting Bill. He's very well informed about ARRL matters and has a fine sense of humor, to boot. He's a past Section Manager and Section Emergency Coordinator of Western PA, and a club leader out in Bradford, PA.

Help support our neighbor club and meet one of our ARRL officials on April 29.

HOW TO UPGRADE YOUR LICENSE CLASS

Many MARC members have already upgraded their licenses under the new system that started last April 15. To refresh everyone's memory, here are the exams required to upgrade your license.

IF YOU ARE NOW ...	TO UPGRADE TO ...	YOU MUST PASS ...
Technician (no HF)	General	General theory & 5 wpm Morse code
Technician (with HF)	General	General theory (<i>but see note below</i>)
General	Extra	Extra theory
Advanced	Extra	Extra theory

Note: If you passed the exam for Technician on or before 3/21/1987, you have credit for all the requirements for today's General class license! In those days, the Tech and General theory tests were one exam. Several MARC members are in this category but have not done the paperwork required to be issued a General class license. Contact **Kay WT3P** (610-993-9623, wt3p@arrl.net) or **Bob W3ZQN** (rjlees@aol.com, 610-265-6032) to find out what you have to do.

Novice class licensees get credit for 5 wpm Morse code. They take only the theory exams to upgrade to Tech, General, or Extra.

Although no brand-new Novice or Advanced class licenses are being issued, existing Novice and Advanced hams may renew their licenses. No frequency privileges changed as a result of restructuring. Advanced class hams MAY NOT operate in the Extra sub-bands!

Here's a demographic snapshot of MARC members at the end of the 2000 membership year. We had 145 licensed members. In the chart, you see the number of members in each class, followed by the percentage of members who were in that class.

The percentage of members who are General and above is increasing because of upgrades (that's good news) but also because we aren't gaining many new hams as members (that's bad news). When you meet new hams, be sure to tell them about MARC and invite them to a meeting.

Extra	61 / 42%
Advanced	20 / 14%
General	33 / 23%
Tech + HF	12 / 08%
Technician	16 / 11%
Novice	03 / 02%

ARRL SPECIAL DUES RATE OFFER

ARRL dues will increase on July 1, 2001. There will be no increase at this time for members who pay at the family, blind, or youth rates, but regular and senior rate-payers will see a rise. Between now and July 1, members can renew for 5 years at special rates and delay feeling the effect of the dues increase.

For example, members who renew for 5 years can do so for \$146 (that works out to \$29.20 a year) while members age 65 and up can get a 5-year renewal for \$122 (that's \$24.40 per year). If you don't want to sign up for 5 years, you can still renew for 1 to 3 years at existing rates before July 1.

Renewals are added on to the end of your existing membership period, so you never lose any time that you already paid for. Can you apply for a Life Membership now at the current rate, before the dues increase? You sure can.

Check out all your options on the ARRL Web site, www.arrl.org (click on "Join ARRL") or call toll-free 1-888-277-5289.

RECIPROCAL OPERATING INFO

(Continued from page 3)

countries in the Americas, including Argentina, Brazil, Canada, Peru, US, Uruguay, and Venezuela, who are signatories of the CITEL Amateur Convention. US Amateurs may use the IARP to operate only in those countries. It's not a license, but certifies that a license exists.

The CITEL Convention provides that IARP's may be issued by a country's government or by its International Amateur Radio Union member-society. The ARRL is the sponsoring society in the US.

To obtain an IARP or for more information on operating from a CEPT or CITEL (IARP) country, visit the ARRL International Operating page, <http://www.arrl.org/FandES/field/regulations/io/>.

Obtaining a license to operate in a country that is neither a CEPT nor a CITEL Amateur Convention signatory or participant requires more paperwork and advance planning. Delays of a month or longer are common. Licensing and operating requirements for all other countries are shown on the "Operating Permit Information by Country" page on ARRLWeb, <http://www.arrl.org/FandES/field/regulations/io/recipient-country.html>.

Another source for reciprocal licensing information is the "Information on licensing abroad for radio Amateurs" Web site of **Veikko "Veke" Komppa OH2MCN**, <http://www.qsl.net/oh2mcn/license.htm>. OH2MCN and the ARRL share information to assure that both sites are as accurate as possible and that the information is suitable for their respective audiences. [tnx ARRL LETTER]

FOR SALE

ICOM dual band FM transceiver (2m/440 MHz). Includes small PTT microphone, BP-82 battery pack with wall charger, PB-85 battery pack with wall charger (5 watts), instruction manual, and carton. \$150 or best offer. Contact **Floyd Schoenberg KA3OXA** (floydsradio@aol.com or 610-645-7707).

ARRL MARYLAND STATE CONVENTION
March 31 — April 1, Timonium, MD

ARRL DELAWARE STATE CONVENTION
April 29, New Castle, DE

FUN WITH HF DIGITAL MODES

Pictures and Links at

<http://home.earthlink.net/~wt3p/MARCDIGI.html>

HERE'S THE 411 ON NEW DIGITAL MODES

The following articles include lists of Web sites where you can download shareware software for PSK31 and MFSK16. The articles explain the hardware requirements, which don't add up to much work (if you home-brew) or much expense (if you purchase). You can also read about digital modes in the *ARRL HANDBOOK* and *ARRL OPERATING MANUAL*.

- ♦ "PSK31— Has RTTY's Replacement Arrived?," *QST*, May, 1999, pp 41 - 44.
- ♦ "PSK31 2000," *QST*, May, 2000, pp 42 - 45.
- ♦ "MFSK for the New Millennium," *QST*, January, 2001, pp 33 - 36.
- ♦ "The HF Digital 'Tower of Babel,'" *QST*, January, 2001, pp 50 - 53.

PSK31 AND DSP By Dennis Silage K3DS

The recent popularity of the new amateur radio digital modes, especially PSK31, is due in large part to the ubiquitous PC and soundcard that is a standard accessory now in many ham shacks. It wasn't always that way and, in fact, PSK31 won't run well on a PC less powerful than an i486 DX100.

PSK31 was actually pioneered on digital signal processing single-board computers (DSP-SBC). These DSP-SBCs were not expensive, usually about \$150, but had to be programmed with a PC host in machine assembly language. I presented a demo of the Analog Devices SHARC DSP-SBC running PSK31 to MARC in 1997.

Even today in side by side comparisons, the DSP-SBC outperforms the PC PSK31 application software. Groups of amateurs interested in experimentation continue these technical developments and one group is porting such DSP software to the Intel microprocessor with MMX (multi-media extension). My group is improving the SHARC DSP-SBC with precision timing signals derived from GPS (global positioning satellite). Both from the technical and operating side, the new digital modes are very enjoyable!

ON PSK31, LOUDER ISN'T BETTER!

When people don't adjust their equipment properly for PSK31, the result is signals as wide as the New Jersey Turnpike and just about as lovely.

It's hard to get over the "be loud" habit that serves so well on other modes.

I have seen people claiming to run 150 watts on PSK31 ... way more than necessary. I have seen signals splattering as much as 400 Hz wide. That's ugly. The "Dirty Signal Syndrome" sidebar on page 43 of May, 2000, *QST* explains these things much better than I can.

Very low power is effective on PSK31 and helps prevent splattering. But a clean signal is not just a matter of cranking back the RF output. It also means adjusting the sound card volume and mic gain.

It takes a little time to figure out the right settings for your particular station. However, once you know what works for you, set up will take only seconds. You'll have a clean signal, and that adds up to more fun for all.

— de Kay WT3P

DIGITAL DX AND CONTEST FUN

By Ron Kenwood W3ZV

My primary interest in digital modes is contesting and DXing. Being somewhat of a digital dinosaur, I still think that Baudot RTTY is king, although the underpinnings of the throne have taken some serious whacks lately.

Baudot RTTY is still the most common digital mode for contesting and DXing. The reason is fairly simple. More people are equipped for it than any of the newer modes, such as PSK31. A side issue in my mind is that using the typical PSK31 software, such as DigiPan, requires the use of a wide filter setting, and under contest conditions, this ain't a good thing.

Contesting software such as my personal favorite, Writelog, will allow the use of PSK31 with a 250 kHz filter, but I find the tuning to be too finicky for contest conditions. Writelog and RTTY contesting are a match made in heaven. Station automation, one of my favorite things, is almost complete. I can go through a weekend contest without ever typing an exchange. Click on calls on the RTTYWrite window, hit a function key, click on the exchange information, hit Enter, and it's in the log.

For DXing, I am currently using WINPSKse for PSK31, which I prefer to DigiPan. It has a better macro setup and allows simultaneous display of two signals (*Editor's note: This is now in DigiPan version 1.6*). My RTTY DXing tool of choice is MMTTY. Again, the macro facility is the big attraction.

Digital hardware for contesting is still my venerable PK-232MBX. I go to the sound card stuff, and before I am an hour into the contest, I am back on the '232. Old habits die hard.

WHAT'S A RIGBLASTER? (Sounds Kinda Scary, Right?)

No, it isn't what happens when you reverse the red and black wires! West Mountain Radio's RigBlaster (see the ad, p. 159 of March *QST* and www.westmountainradio.com) is an interface that allows you to do all kinds of sound card digital modes using the software of your choice. The authors of DigiPan offer a similar device for sale on their Web site (members.home.com/hteller/digipan/). Unlike a TNC, these devices have no commands to remember or parameters to wrangle with. They connect between a computer com port and your rig's mic jack.

Greetings from the Penn-Ohio DX Society ... Please pass the word to the PSK'ers in your group about our free Ø7Ø Club PSK award program. Info about the Ø7Ø Club can be found at our website <http://hometown.aol.com/n3dqu/podxs.htm>. 73 de Jay N3DQU.

DEEDLES, CHIMES, BEE-BOOPS, AND KLINGONS: Exploring HF Digital Space

By Kay Craigie WT3P

It's fun to be on modes where everyone is on the learning curve. It must have been like that in the early days of ham radio, when pioneers were making it up as they went along.

A computer hobbyist before getting my ham license in 1983, I got on HF digital in the 80's with my Apple II+. I even made a couple of contacts on HF packet (ugh!). "Steam" RTTY with its two-tone deedles was the most fun, though.

I can't remember why I dropped RTTY for 10 years or so, but I'm glad I came back. I use the Kantronics KAM Plus interface that's also my VHF packet TNC. Because there's no error correction and only upper-case, QRM/QRN produces text like "QTH IS PTVAKHSBUGH." And you thought Klingons don't get on the ham bands!

For newer digital modes that work from the sound card, I use West Mountain Ra-

dio's RigBlaster interface. On PSK31, I use DigiPan software. On MFSK16, I use the IZ8BLY Stream program. Both are excellent and free of charge. A lot of shareware costs nothing and is worth half as much, but these programs are a whole 'nother ball game. Top-notch stuff.

With the TNC on one COM port and rig control on another, I had to install a third COM port to host the RigBlaster. This was tricky but finally worked out OK with only a little pain and profanity. The next computer I get for the shack will have at least 3 COM ports installed and fully trouble-shot before I take it home!

I like the super-narrow bandwidth of PSK31, its ear-friendly chime sound, and its usefulness at extremely low power. I've worked Europe when the power output meter did not move at all! I've seen over a dozen QSO's in a passband 2.5 kHz wide, not QRMing each other. Amazing!

Recently I worked JY9NX on PSK31 split frequency. It's not like working CW or SSB split, where you use 2 VFOs or, in a pinch, the RIT. I set a marker on the JY's transmit frequency and another 1 kHz down where he was listening. Then I could click back and forth to transmit and listen. I'm sure there's a more elegant way to do it, but this worked!

Remember the beepity-boopity "computer" and "laboratory" noises in old science fiction movies? That's what MFSK16 sounds like! Even though it slows down the copy somewhat, MFSK16's forward error correction (FEC) is a nice feature. Extremely low power is effective on this mode, too.

I enjoy DXing and award-hunting, and I want to earn Worked All States and DXCC on digital. Getting on PSK31 and MFSK16 in addition to Baudot RTTY has started me moving again towards those goals. Wallpaper, here I come!

PSK31, SO WHAT'S ALL THE EXCITEMENT?

By David Laustsen W3LAW

First of all, let me say that the rumors that I am the cheapest guy in the world are somewhat exaggerated. However, I will say that I don't like to spend a lot of money on new gimmicks or modes.

So, when I noticed that many of my RTTY friends were moving to a new mode, I was skeptical. Turns out that the "equipment" that you need for this mode is probably right in your shack already. A computer (either Mac or PC) with a sound card. No TNC, just some interface circuitry (a few cheapo parts or a RigBlaster, your choice) and your HF rig.

I won't go into detail on how to set it up, but if a lawyer can do it, trust me, so can you. I bought one of **Steve N3ORH's** "specials" — a recycled PC clone for a cheapo price. In a matter of a few minutes, I was on the air with both of my Ten Tec's — the Omni VI and the Scout. I

run very minimal power on PSK31 with both units — usually about 4-7 watts. I have used either my 350' long wire or a really crummy 20 meter dipole that I hung in the attic. Both will work Europe on 4-7 watts. How can this be? Imagine squeezing 2,500 cycles of signal power into 31. Boy, talk about an "electronic beam" with an electronic "linear."

You contest-kilowatt-tribander types probably think I've been smoking funny stuff when I make these claims about PSK31. Believe me, those of you who had a hard time working any DX with your station on SSB will find that you've died and gone to DX heaven with PSK31. You can work the exotic locales just like the "big boys" and you don't have to bust those pile-ups. Even more important to folks like me who are too busy and disorganized to participate in contests is that amazingly, these PSK31

DX guys will engage in a keyboard rag chew with you!

Another advantage of PSK31 is that you can put together a picnic table station for portable operation and work the world with an old recycled gel cell battery. I have the PSK-20 kit transceiver (see June, 2000, QST). It puts out a watt and a half, has no knobs or readout. With it or your usual HF rig, you can work just about anywhere with a wire dipole.

So, get your copy of QST and read about the latest mode, PSK31. Try it. It's fun, and it really works well. Hams around the world have embraced PSK31 because they can get on the air at a truly minimal expense, and because it works so well. At last, those of us without big towers and linears can have fun working the world!

We regret that the February membership meeting date had to be changed from the 3rd to the 2nd Tuesday. The township scheduled a meeting on our regular date, and so we had to change weeks or cancel our meeting. All members who have e-mail addresses were sent 2 messages about the change. All members who do not have e-mail were sent a postcard through the mail. One member said he didn't get a postcard, but an address label was generated for him. MARC has no control over what happens to stuff once it is in the mail. We were not happy about the change and truly hope it won't happen again!

WANT TO ORGANIZE A TECH LICENSE COURSE FOR FALL, 2001?

We know why ... now we need YOU for the who, to set up the what, where, and when. Contact Kay WT3P (610-993-9623, wt3p@arrl.net).