

GLoucester County Amateur Radio Club, W2MMD

CLUB MEETING

WEDNESDAY, FEBRUARY 6, 1991; 2000 HOURS SHARP;
AT VFW POST 2117, WOODBURY HEIGHTS, NJ.

President's Message - February 1991

G.C.A.R.C. OFFICERS

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N2DWR
WA2TML
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3 YR. IRMA COLABRESE N2FNF
2 YR. -----
2 YR. FRANK MALINOWSK KE2NY
1 YR. -----
1 YR. MIKE LIPNITZ N2FKS

TRUSTEES

4 YR. MILT MARDER
3 YR. HOWARD MARDER
2 YR. VIRGINIA MACRIE
1 YR. JIM CLARK

WA2FGA
WA2IBZ
KA2ZZA
KA2OSV

COMMITTEE CHAIRPERSONS

ADVERTISING -----
ARES/RACES WB2LNR
AWARDS Y2ZA
BANQUET N2DWR
CHAPLAIN WA2BMQ
CONSTITUTION WB2DXB
CONTESTS KB2IQP
CROSSTALK EDITOR KB2AYU
DATA PROCESSING KB2COB
DX K2JF
FIELD DAY KB2FRM
HAMFEST N2KLE
HELP/WELFARE N2ILB
HISTORIAN -----

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LEGISLATION
MEMBERSHIP
NETS
PUBLICITY
REPEATERS
SITE
SCHOLARSHIPS
SPECIAL EVENTS
SUNSHINE
TECHNICAL
TRAINING/TESTING
WAYS/MEANS

N2AV

WB2GSF
WA2TOP
N2DWK
WA2TML
KB2GTV
WN2T

KB2EUA
KB2AYU
WA2VQG
N2FNF

CLUB REPEATERS

147.78/18 MHZ. 224.66/223.06 MHZ. 442.100/447.100 MHZ. CTCSS 131.6

CLUB NETS

ARES/RACES . . . EVERY SUNDAY AT 2000 HRS. ON THE 147.78/18 AND 224.66/223.06 RPTS.
10 METERS EVERY TUESDAY AT 2100 HRS. ON 28.350 MHZ.

MAZEL TOV!!! WELL DONE!!!

I told you this was a GREAT club! Congratulations to Ros and Ginny for the tremendous job they did on the Installation Dinner. Those of you who were there will agree, I am sure, that we had a wonderful dinner and shared many happy moments, anecdotes and laughter with one another; those who were not there, well, you missed a great time. Hope you can make it next year.

Congratulations also to Rosalind who was awarded the MILT GOLDMAN AWARD. This award is given to a member who has devoted much time and effort to the Club over the years. It certainly is an honor to be the recipient of this prestigious award. Good job, Ros! I hope each of our members would consider giving of their time and talents to be a future recipient of this honor.

I want to personally thank all of the members who accepted the chairpersonships of the various committees. These committees are an integral and very important part of our Club activities. I am very fortunate to have the talents of such gifted members to head these committees. There are still openings for those of you who want to get in on the action and head a committee. C'mon, it's a wonderful way to really get involved and put your talents to work for others. I mean it --there's no better feeling you get than from doing something for others (I got this from a "Higher Authority").

In line with my keeping this club a MEMBERS' club, Maria, N2DWR (my right hand VP and the person who prepares the programs for our meetings) and Irma, N2FNF (who is graciously heading up the very important Ways & Means committee) both need your input. Therefore, they will both pass out a survey form to you during the February general meeting. Please take a few minutes to fill out the survey and return it to them before you leave the meeting. Thanks.

In closing, I just want to say that YOU ARE GREAT and it really is a pleasure being part of all this. I know that by working together, we can only get better. Let's do it!!!

EDITORS NOTES

Now that the holidays are over and the first month of 1991 is quickly coming to an end, it's time to get back to a "normal" schedule.

February will see the introduction of the new codeless amateur license and, I hope, the end of the Persian Gulf War.

This month we have some very good articles submitted by GCARC members. Be sure and check them out!

AL, KB2AYU

MEETING MINUTES

The monthly meeting of the GCARC was held on January 2, 1991 at VFW Post 2117 in Woodbury Heights, NJ. The meeting was called to order at 20:00 hours by WA2BMQ. The minutes of the previous meeting were read and approved. KB2ETQ has a new call: KE2YL. N2FJM finished collecting money for the banquet. WA2BMQ reviewed all committees and chairpersons. Five new members welcomed: Darin Wicks; Morris Pollack, KB2DQJ; Peter Lunn, N3INP; Daniel Williams, N2LGH; Richard Latimer, N2JPA. WA2BMQ noted The Gloucester County Times published a photo on 1/1/91 regarding Project Santa. KB2GTV reviewed a list of jobs to be done at the site. N2FNF was appointed Chairperson for the new Ways and Means Committee; planning to start a major fund raiser in February. KB2EUA is at home recovering from an accident; N2DWR is temporary Sunshine Chairperson. WB2DXB announced Milt Goldman, K3WIL, is ill. WA2BMQ is compiling a list of keyholders to the site; announced that the security alarm at the site will soon be connected to a central station. Nominations were made for the two-year Director position: Cory Sickles, WA3UVV; Bob Layton, KB2COB; Chris Chamberlin, N2IVN. More nominations can be made at the February meeting. WA2TML reviewed the 1991 Budget Proposal. The Proposal was accepted. Meeting adjourned at 21:30 hours. N2KLD

CLUB CONTESTING

The 1991 contest season is upon us. Three of the ARRL-sponsored contests during 1991 include an ARRL-affiliated club competition. These are the January VHF Sweepstakes, February/March International DX Contest and November Sweepstakes. Only ARRL-affiliated clubs, like the GCARC, may participate in the club competition. A member must be listed in the regular score listings to be counted for a club. For a club to be listed, two conditions must be met:

- 1) At least three different entries from members of the club must be submitted.
- 2) All members wishing to be included in the club scores must indicate the club name on their summary sheet.

Also, be sure to accurately log each QSO's call sign and exchange so as not to be unnecessarily disqualified. (The use of standard ARRL contest forms will help to ensure that your score is figured properly and speed up publication of contest results in QST).

I will be bringing back the Megapoint Award. This is a GCARC award for accumulating one million or more points over any number of the following contests:

Jan VHF SS	X 50	
Nov SS	X 5	
ARRL DX	X 3	Note the multiplying factor
2-Land QSO Party	X 3	toward the Megapoint Award.
CQ WW DX	X 2	
CQ WW WPX	X 1	

To get credit toward the Megapoint Award you must be a GCARC member and indicate the GCARC as your club affiliate on your summary sheets. Then send your sheets to me for verification and forwarding to each contest sponsor. Don't hesitate to call me if you have a question about the rules for any particular contest. The time to ask is before the contest not afterward. Upcoming contests are: ARRL DX cw, Feb 16-17; ARRL DX phone, Mar 2-3; CQ WW WPX phone, Mar 23-24. John, KB2IQP

Unveiling the Universe

Galileo Galilei, the great Italian astronomer and mathematician, was born 427 years ago this month on February 15, 1564. Although his ideas were condemned as heresy by the Roman Catholic Church, Galileo revolutionized man's concept of Earth's place in the heavens. He did so by providing strong observational evidence supporting the views of Copernicus, who said that the Sun, not Earth, is the center of the solar system.

Galileo was the first person to use an extraordinary new invention – the telescope – to examine the heavens. With his telescope Galileo discovered four bright points of light circling Jupiter. The objects were Jupiter's four largest moons: Io, Europa, Ganymede, and Callisto.

This finding was a key piece of evidence in support of the Copernican view of the heavens. Others had argued that if Earth really orbited the Sun, our Moon could not keep up. By demonstrating that other moons could orbit another planet that everyone agreed was in motion itself, Galileo disproved this notion.

Galileo also turned his instruments on Venus, our nearest planetary neighbor. Again his telescope revealed crucial evidence in defense of the Copernican view of the solar system: Venus would always appear as a crescent. But Galileo found that Venus displays both crescent and gibbous phases, meaning it must be in orbit around the Sun.

Galileo's work is honored and respected today, but in the seventeenth century it created major problems for the astronomer. After an appearance before the Roman inquisition he was forced to deny his won findings and was placed under house arrest for the last decade of his life. Tnx K2JF

- Feb 3 Luna 9, first craft to soft-land on Moon 1966.
- Feb.7 Bruce McCandles, first untethered space walk 1984
- Feb 19 Nicolas Copernicus born 1473
- Feb 20 John Glenn first American in orbit 1962
- Feb 23 Supernova 1987A explodes 1987

THE PLANETS THIS MONTH.

Mercury visible in morning twilight..early to midmonth.

Venus sets at 8 PM.

Mars sets at 2 AM crosses meridian at 7 PM.

Jupiter sets at 6 AM crosses meridian at 11 PM.

Saturn rises at 6 AM (Look south of the rising Sun).

SOME INFORMATION.

- Feb 11 Thomas Edison, born 1847. American inventor of the electric light, phonograph, and motion picture projector, also made major contributions to the development of the telephone.
- Feb 11 Alessandro Volta, born 1745. Italian inventor of the Voltaic Cell.
- Feb 22 Heinrich Hertz, born 1857. Brilliant physicist under the tutelage of Helmholtz at the University of Berlin, successfully tackled the most difficult questions posed by Faraday and Maxwell concerning the nature of electricity. In 1888, at the age of 31, Hertz demonstrated experimentally that electric "vibrations", just as light, would propagate through space.
- Feb 23 Created by Hoover, the Federal Radio Commission was designed to bring order to the chaos that was AM broadcasting. (Then the FCC created the 11 meter band). TNX K2JF

1991 NEW DELMARVA HAMFEST
SPONSORED BY A.W.A.R.E. AMATEUR RADIO CLUB

In association with the Delmarva Hamfest Association, the A.W.A.R.E. Amateur Radio Club will sponsor the 1991 New Delmarva Hamfest. The hamfest will be held on Sunday, April 14, 1991. It will be located at the Nur Temple on RT 13, 1/8 mile north of RT 40, in New Castle, Delaware.

The hamfest will include indoor and outdoor reserved swaptables, tailgating, commercial exhibitors, ARRL VE testing, door prizes, refreshments, and much more.

Additional hamfest information will be available every Monday evening on the A.W.A.R.E. information net at 8 P.M. Net frequencies are 147.225/825 Mhz and 224.00/R Mhz.
73, Brian Pasternak, KA3VSP

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MARKET PLACE

(See the club roster for phone numbers and addresses).

KB2ETV	ASTRON RS-12A POWER SUPPLY, NEW IN BOX	\$60
	CDE AR-40 LIGHT DUTY ANTENNA ROTOR, GC	\$40
KE2WC	REALISTIC HTX-100 10 METER RIG, VGC	\$150
KB2AYU	COMET CA-2x4Z DUAL BAND 146/446 ANTENNA, LENGTH 16 FT, AND CF-416 DUPLEXER, LN	\$190

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THANKS TO K2JF WHO HAS AGREED TO TAKE OVER THE VERY IMPORTANT POSITION OF ARRL LIAISON. THIS IS A VERY IMPORTANT JOB, THAT WE CAN CONTINUE TO KEEP AN OPEN LINE TO THE ARRL ON WHAT IS HAPPENING IN OUR HOBBY. MANY THANKS TO JOHN.....HAPPY BIRTHDAY TO KB2EUA, MIRIAM KRAVITZ. HOPE SHE IS FEELING BETTER!.....HAPPY BIRTHDAY TO CHUCK, WA2TML (2/27). HAPPY BIRTHDAY TO ME, MARLA, N2DWR (2/28)..... WE'D LIKE TO HAVE YOUR BIRTHDAY ON FILE, SO THAT WE DON'T FORGET ANYONE, SO PLEASE TELL ME WHEN YOUR BIRTHDAY AND ANNIVERSARY IS, SO WE CAN PRINT IT..... N2DWR

THE WONDERFUL LOVE

The wonderful love of a beautiful maid
And the love of a staunch true man
And the love of a baby unafraid
Have existed since life began.

But the greatest love
The love of life
Even greater than that of a mother
Is the tender and passionate
Infinite love
Of one drunken Bum for another.

Author unknown, from the collection of Sonny Gutin

What is a Packet Switch ?
by John Zaruba Jr. AA2BN

I've heard this question uttered quite frequently, and thought that a short article was in order. A packet switch (also referred to as a NET/ROM) is very similar in concept to a digipeater. The main difference is the switch has some "intelligence" when compared to a TNC digipeater.

When utilizing a TNC digipeater, and one wishes to connect to another station that can't be accessed directly, the connect sequence must specify every digipeater along the path. For example, I can't talk to the KE2M BBS directly, but I can get to him this way...

C KE2M-4 VIA KB2AYU,N2DWR

and so on, up to eight callsigns. When I hit [CR], the packet goes from KB2AYU to N2DWR to KE2M-4, then the acknowledgement frame comes back by the same route. This is known as END TO END ACKNOWLEDGEMENT.

Here is the difference between digi's and switches. The switch uses NODE TO NODE ACKNOWLEDGEMENT. When I connect to a switch and send a frame, the switch sends me an ACK frame. It then sends the packet to the next node in line and receives an ACK from it, ad infinitum. The "intelligence" enters the picture in that the switches talk to each other. A switch keeps a list of other switches it can hear in a NODE LIST. These switches talking to each other constitute a LAN or LOCAL AREA NETWORK. When I use the KE2M BBS via the LAN, the exchange goes something like this...

C WB2DRD-2 (a switch close to me)

the switch responds...

***CONNECTED TO WB2DRD-2

Then I send...

C KE2M-4

at that point I'm connected to Tom's BBS. The benefit is I don't specify the intermediate nodes. All I do is tell the network where I want to go, it handles the routing automatically. To find out what is available on the LAN, I issue the NODES command after I connect and I get a list of all the nodes that are available. This will include some BBS's, if their software broadcasts to the network.

You'll notice that in the node list, most stations have an ALIAS. This is a name that describes the location or position of the node in the network. KE2M-4 is SWBBS (south west bbs), WB2MNF is MNFBBS, K3AF in Annapolis is NAVY-6. You can connect to either the callsign or the alias. Sometimes there are multiple switches on different frequencies at the same physical location, this is known as a STACK.

Well, you may say, this is all very interesting, but what do I do with this network? Primarily the LAN exists to forward mail and bulletins between BBS's, but there is some fun to be had here when the low bands are dead. Just connect to a distant node, get a node list from it, connect to another faraway node, get a list from it, and so on. Hitting a BBS in Washington DC is nothing new, you can do that in 1 hop. I've personally connected as far west as Detroit, but the farther out you go, the slower the responses get.

That about sums up basic switch operations. To find out more, get on a switch and start poking around the network. It's the most fun way to find out.

QRP Transmitter From Your Junkbox

Some years ago, I was bitten by the QRP bug. In case you were also, or would like to try your hand at it, here's an extremely easy to build CW transmitter with a 1 watt power level. It can be built from parts in just about any junkbox, or if necessary, you can get most of the parts from Radio Shack. Best of all, you don't need any toroidal forms! You can hand wrap the coils in just a few minutes.

The transmitter design is basically a push-pull scheme, utilizing some common JFET's. While this particular one is for 7Mhz, I have built units for 3.5 and 10Mhz. By making a few subtle changes, you can probably get it all the way up to 20 meters.

The choke coils, L1 and L2, can be anything from 200 to 2500 microhenrys. If you don't have any in your junkbox, wind 40 turns of wire around a 1/2" diameter dowel rod for a length of 1". L3 is 38 turns, center tapped, on a 1/2" dowel rod. L4 is 4 turns over the center of L3. (I told you this was easy.)

The transistors I used were MPF102's. You could substitute Radio Shack 276-2062 or something else with similar characteristics. I have used this rig with voltages from 6 to 24. The maximum voltage on the transistors is 25, so don't keep the key down too long if you decide to go with 24 volts.

If you use FT-243 crystals, you may find their initial oscillation to be "soft". Adding capacitors C2 and C3 across the chokes will virtually eliminate this problem.

The variable capacitor, C1, is a transistor radio type (see parts list). I used one half of a 335pf, for a maximum capacitance of 193pf. (My target was 160). If you decide to go down in frequency, you can wire the sections in parallel. To go up, wire them in series. You could even get fancy and put in a switch to add or delete the sections.

I used a BNC connector for the output, and a mini phone jack for the key, since I had some lying around. Instead of a socket for the crystal, I mounted alligator clips to the board. This arrangement accommodates a variety of case styles.

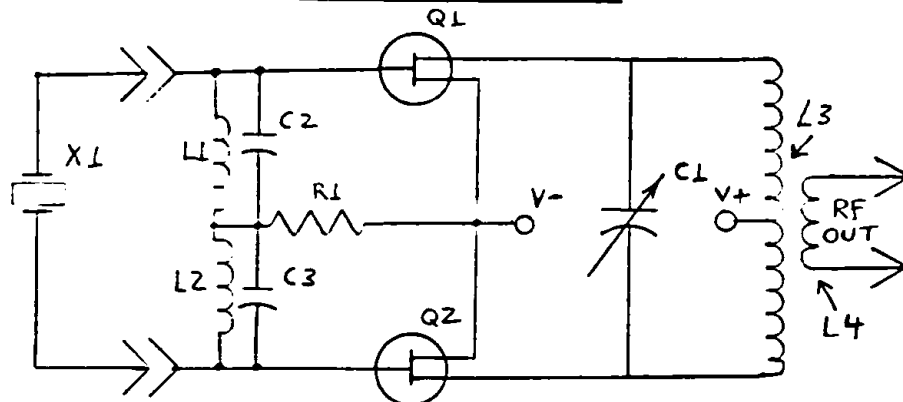
While using this transmitter and a low dipole, I have been able to work stations from Ohio to Florida in just a few tries. I hope those of you who build this enjoy it. If you want to compare notes, I will have a "just how sloppy can you get?" example at the next club meeting. Good luck and have fun! Cory, WA3UVV

Parts List

C1	160-190pf (max) variable capacitor (see text) Calctro A1-234 or Radio Shack
C2,C3	.01uf (or whatever)
L1,L2	200 to 2500uh
L3	38 turns, close wound, center tapped on a 1/2" dowel rod
L4	4 turns, close wound, around center of L3
R1	1500 ohm 1/2 watt
Q1,Q2	MPF102 N-Channel JFET or equivalent
V+,V-	6 to 24 volts - will provide 250mw to 1 watt
X1	Fundamental Crystal

(See schematic on next page).

Schematic for QRP transmitter



OPERATION: DESERT STORM

You can send FREE messages to individuals stationed in the Persian Gulf With the U.S. Armed Forces through "Letters from Home". In fact, now more than ever it is important to keep the morale of our service men and women high.

According to the U.S. Military, mail traffic to the Persian Gulf has dropped off "dramatically" since the holiday season. Our troops have noticed the drop off and are anxious to hear from their friends and loved ones back home.

While you may not know someone currently stationed in the Gulf region, it is very likely that your friends or neighbors do. Pass the word about Letters from Home along to them. If they don't have access to a personal computer and modem, perhaps YOU can help them out!

For GENie subscribers to access the "LETTERS FROM HOME" system, type the word "LETTERS" at any menu prompt. For Non-subscribers to the GENie network, just dial any GENie local access telephone number and access Letters from Home by typing LETTERS at a U#= prompt. AND, THERE IS NO CHARGE TO SEND A "LETTER FROM HOME"! Here are the access numbers for GENie service in this area:

Phone no.	Speed	City
609	TRI	Moorestown (Merchantville/Cherry Hill)
AREA	TRI	Atlantic City
CODE	1200	Pleasantville (Atlantic City)
	TRI	Princeton

Phone no.	Speed	City
215	TRI	Lansdowne (Philadelphia)
AREA	TRI	Reading
CODE	TRI	Allentown
	TRI	Royersford (Spring City)

continued

NOTE: "TRJ" under speed indicates 300/1200/2400 BPS accepted.

Offered in cooperation with the U.S. Armed Forces, the Saudi-American General Electric Company, GE Rents and Pitney Bowes Inc., "LETTERS FROM HOME" allows individuals in the United States with access to a personal computer and modem to send personal messages to loved ones serving in the Persian Gulf region. Letters are sent electronically via GE Information Services' worldwide teleprocessing network to GE's local telecommunications facility in Saudi Arabia. The letters are received and printed on computers and printers supplied by GE Rents. The mail is then folded, inserted and sealed in envelopes using state-of-the-art equipment provided by Pitney Bowes. Finally, letters are then given to the Military Postal Service for delivery to the designated serviceperson - some in as little as two days!

To send a "Letter From Home", you must know the following:

- Name, Rank, Social Security Number, Unit or Ship, APO or FPO

The Letters From Home system automatically prompts senders for the appropriate information. Note - Letters bound for the Persian Gulf are now being accepted for APO and FPO addresses based in:

- New York, Miami, San Francisco, Seattle

Don't delay! Let your friends and loved ones in the Gulf know you're thinking about them ... TODAY!

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While the above article is targeted for those who wish to get in touch with a specific person, the following is for those who would just like to write to someone/anyone serving in the conflict:

Show your support! Write letters to the troops in Saudi Arabia! You'll brighten someone's day who may not be receiving mail from home. Address your letters to "Any Service Member" and they will be distributed among the units.

Mail for members of the Marine Corps can be addressed to:

Any Service Member
Operation Desert Shield
APO New York 09848-0006

Mail for Navy and Marine Corps members serving onboard ships in the Saudi region can be sent to:

Any Service Member
Operation Desert Shield
FPO New York 09866-0006

Mail sent to these addresses is limited to first class mail of less than 12 ounces, including audio tapes. Your local U.S. Postal Service can advise you of any other mailing restrictions.
(N2DUZ)

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