



The WACOM HAM



<http://www.wpol.com/wacom>

April 1997

Editor: Kevin Smith

Washington, PA

THIS IS THE MONTH OF CONGRATULATIONS

WACOM RECOGNIZED BY WASHINGTON COUNTY
COMMISSIONERS

NOVICE/TECHNICIAN CLASS CONCLUDES

by Paul Plants N3WMV

Assistance During Tire Fire

WACOM members, WB3BZK, N3YHW, N3NEL, KA3UDR, KA3MZS, N3VBU, N3WLA, N3IDH, AA3KC and N3WMV provided emergency communications over a 36 hour period in support of the efforts to fight the recent tire fire in East Washington. Within minutes of being contacted, (and before the Red Cross on every occasion) WACOM members were on site and ready to operate.

On March 20, 1997, as a result of this effort, WACOM was cited along with other groups with a Proclamation by the Washington County Commissioners declaring the week of March 16 through 22, 1997 as "Emergency Service Providers Week". It shows again that, even in this time of cellular telephones, amateur radio provides a valuable service to emergency personnel. A report on

WACOM's assistance will be given at the next general meeting along with the proclamation being on display. The proclamation will then be hung in the club room at the George Washington Hotel.

Novice/Technician Classes

Novice and Technician classes that were led by Jim Burtoft, KC3HW and assisted by many other WACOM members, were recently concluded with



apparent good results. Of the thirteen original students who started the class in January, the

majority went on to earn a license. (See the following story.)

This is a credit to the students and to Jim Burtoft, who obviously conducted a very effective class.

Results of March 13th Volunteer Examination Session

by Stan Cole, NX3P

To conclude WACOM's Novice/Technician classes for this year, a total of seventeen candidates participated in the V.E. session. Eleven of these candidates either upgraded or earned a new license. The breakdown came down to 1 Novice, 3 Technician, 7 Technician Plus. We processed a total of 38 exam papers.

The following V.E.'s helped at the session: AD3T, AA3JK, KB3AAG, WB3BZK, N3NEL, KA3KSP, WA3VKC, W3CT, N3TIR, and KA3PMW. I'd like to thank the V.E. team for a job well done. I could not do this job without the loyal support I have received. Again much thanks to my team. 73, Stan NX3P-V.E. Team Leader

The next VE session conducted by WACOM is tentatively scheduled during the WACOM Hamfest in November.

Speaking Out

by Kevin Smith, N3HKQ
Newsletter Editor



I too would like to acknowledge the WACOM members who participated in providing emergency communications during the recent tire fire in Washington. It was also nice that WACOM was recognized for the effort. Did anyone take any pictures? Would any of the participants like to write me a brief story to publish?

In the rush to mobilize I can appreciate that the last thing one thinks about is taking a camera along. But in the future, could any member who involves them-

selves in a situation like this please think to take a few pictures. Once the film is developed, I can have pictures scanned into a computer file and returned to you in no time.

Even if no pictures are taken, anyone can give an eyewitness account of what went on. You don't have to worry about your writing ability, I'll edit your work if you want. Just remember what you learned in grade school: Who, What, When, Where, and Why. Better yet, just make a list

of the answers to the 5 W's and I'll write the story. What could be easier?

This plea isn't just to help me fill up the newsletter. Its more important than ever to publicize what amateurs do in emergencies. Whether you believe it or not, we have to justify, more and more, our right to the frequency allocations assigned to the amateur service. The pressure from outside interests to obtain access to our VHF and UHF bands is building every day. You help all amateurs by writing down the facts and taking pictures of your participation in emergency service and getting them to me.

On the lighter side, if you have recently raised a new antenna tower or purchased the latest in radio technology and want to tell the club about it, what better way than in the WACOM Ham. Do you think you have a unique QSL card? Show it off here.

I have some ideas for our website too. A number of things that could be included in the website are: 1) highlight a different member's QSL card every month; 2) include recent pictures of WACOM activities; 3) get information about WACOM's various certificates we award (Washington County award, Pumpkin Festival, etc).

These things and more will make the website much more interesting to visit and get the message across of what makes WACOM tick. What ideas do you have? Let the club know.

WACOM Committee Phone Directory

A.R.E.S.	Dave DeMotte, N3IDH	228-8178
RACES	Bob Ketzell, KB3IN	228-0425
EMA	Dave Smith, N3LIK	225-0346
President	Paul Plants, N3WMV	225-8637
Vice President	Joe Musante, WB3GTE	223-0897
Secretary	Patty Marshall, N3XAR	225-8637
Treasurer	Kevin Smith, N3HKQ	258-4153
Education	Jim Burtoft, KC3HW	228-0546
2mtr Net Mgr.	Jim Grazulis	228-7583
10mtr Net Mgr.	Joe Musante, WB3GTE	223-0897
Newsletter	Kevin Smith, N3HKQ	258-4153
Repeater	Sam Mayberry, W3CYO	222-0367
VE Testing	Stan Cole III, NX3P	223-0104

Notes From the Latest Atlantic Division Newsletter

ATLANTIC DIVISION'S NEW HOME PAGE

<http://www.resuba.com/arrl>

Thanks to the creativity and generosity of some hams in the Division, the Atlantic Division now has a locally-maintained home page on the Web. While the earlier page maintained at ARRL HQ was okay, the many responsibilities shouldered by HQ staff in the electronic communications arena made it unrealistic to expect a lot of changes, fine-tuning, and other detail work.

So we decided to move the Web page into the Division. This allows us more flexibility and more creative opportunities. Our volunteer Webmaster is Doug Crompton WA3DSP, one of the Field Organization Technical Specialists in Eastern PA. The system resources are donated by Resuba Digital Systems, operated by Bill Krimmel N3IIB. Thanks to Doug and Bill, our Web page service is improving all the time. The page is accessible via a link from ARRLWeb or directly.

If you haven't checked out our home page, consider yourself invited to drop in for a look. If you're reading this on the Division home page, be sure to let us know what you think.

CQ CQ DE ... UM, WHAT THE HECK IS MY CALLSIGN NOW, ANYWAY?

(Or, Radio Clubs and Vanity Insanity)

Have you noticed a few more gray hairs, or maybe fewer hairs of any color, on the person who maintains your club membership roster? No wonder! Keeping track of the flood of Extra-class vanity callsigns would give anybody fits ... and we have all the other license classes yet to go. Although the people who sell callsign badges and other personalized accessories are probably grinning like the grille of an old Buick, the rest of us are struggling to remember who is who!

Please remind hams who use ARRL Incoming DX QSL bureaus that use the self-addressed envelope system (such as the 3rd call area bureau) to provide some envelopes with their new callsigns. Managers of the 2nd call area bureau have requested users to subscribe under their new callsigns. Whether a bureau uses an SASE system, a subscription system, or some other system, it is not possible to re-route incoming QSL cards from a person's previous callsign to a new callsign. If everyone will cooperate, users will receive good service as usual and QSL bureau volunteers will not experience migraine or pain in the extreme lower spinal area.

In many areas, not just callsigns are changing. As the emergency telephone 911 system is implemented, rural addresses are changing from route and box numbers to road names and house numbers.

The "911 address" phenomenon has affected some ARRL leaders in our Division. As you start off the new year, please check pages 10 and 12 of February QST to be sure you have the latest address for Division and Section elected officials. We don't want to miss issues of your club newsletter or any member correspondence because an outdated address has been used. For Northern New York and Southern New Jersey, please note that you now have new Section Managers.

SHOULD THE NOVICE / TECHNICIAN / TECH + LICENSES BE RE-STRUCTURED?

Something to Think About in March QST

As part of their task of considering the future of Amateur Radio, the League's WRC-99 Committee drafted a think-piece about re-structuring the lower end of the ham radio license ladder in the USA. Their work will be published in March QST.

There is no desire to rush into any changes in the immediate future. This is a straw-man, a think-piece, a set of talking points. It is not ARRL policy and is not a "done deal" to be stuffed down your throat. As Director, I would vote

only for those changes in the licensing structure that have clear, strong support from ARRL members in our Division.

Do you think the ideas in this article would be steps in the right direction? Why, or why not?

Please get a discussion going about this article in your radio club and encourage all League members to send comments to their Director. In the Atlantic Division, that is Kay Craigie WT3P. (If you live in another Division, please get your Director's address from QST or from ARRLWeb on the Internet.) Which parts of it do you favor? Which parts do you oppose? What are the reasons for your position?

Please read the article in March QST carefully and send comments to your Director by the end of May. Straw polls from clubs are welcome, as well as individuals' comments.

WRC-99 SURVEY RESULTS FROM THE ATLANTIC DIVISION

September QST included an opinion questionnaire focused on the Morse code requirement for HF operations. Results of a poll carried out using a similar questionnaire sent to a scientific sample of ARRL members and non-members appear in February QST. To make certain that every member had the chance to be heard, the questionnaire was published in QST and members were encouraged to submit their views. Although some members preferred to express their opinions free-form via letters or e-mail, just over 900 members from the Atlantic Division returned the survey form. About 50 non-members also sent in survey forms. The data that follow represent input from ARRL members only. For information on responses from other Divisions, please contact the appropriate Director.

WHO RESPONDED?

Age groups:

Under 18	1.2%
18-24 yrs	0.6%

(Continued on page 4)

April Western Pennsylvania VE Test Opportunities

(A) = ARRL/VEC, (L) = LAUREL/VEC, (M) = MOUNTAIN/VEC,
(5) = WSYI/VEC, *P* = Pre-registration requested, *N* = No walk-ins, WI = walk-ins

Date(s)	Location	Club	Time	Contact	Telephone
5	Erie		RA of Erie.	Norma Vanderhoff,	814-665-9124 (A)
5	Pittsburgh,	8:30 AM.	Grtr Pittsburgh VHF.	Jim Cottrill,	412-563-2379 (A)
10	Philipsburg.			David Runk,	814-342-0696 (5)
17	Pittsburgh.		South Hills ARC.	Ronald Lentz,	412-922-1257 (A)
19	Erie,	12:30 PM.	Gannon University.	John Duda,	814-871-7532 (A)
19	Mercer.		Mercer Co ARC.	Dennis Gregory,	412-347-5960 (A)
24	New Castle,	6:15 PM.	ARL of Lawrence Co.	Fred Van Natten,	412-667-9451 (5)
26	Indiana,	9 AM.	Indiana Co ARC.	Tom Ringler,	412-349-8847 (A)
26	Meadville,	10 AM.	Crawford ARS.	James Cihon,	814-724-1413 (A)
26	Pittsburgh,	10 AM.	WPA Hilltoppers.	Dennis Tanner,	412-885-8073 (A)

(Continued from page 3)

25-34 yrs	3.5%
35-44 yrs	15%
45-54 yrs	28.5%
55-64 yrs	18.3%
Over 65	32.9%

License classes:

Novice	Less than 1%
Tech	10%
Tech+	12%
General	14%
Advanced	21%
Extra	43%
No license	Less than 1%

Number of years licensed:

Less than 5	27%
6 - 10	9%
11 - 15	6%
16 - 20	9%
Over 20	49%

How often do they use Morse code?

Regularly	52.5%
Rarely	25.6%
Never	21.6%

WHAT DO THEY THINK ABOUT THE INTERNATIONAL MORSE REQUIREMENT?

Keep the code requirement	68%
Code is irrelevant	28%

No response 4%

Of the 253 members who called the Morse code irrelevant in the international regulations:

(224) think the code is a good thing to know, but it should not be a licensing requirement.

(120) think there should be at least 1 level of Morse proficiency required in the USA for HF.

(112) think there should be some Morse requirement in the USA for full ham privileges.

General, Advanced, and Extra class hams make up the majority (90%) of those who favor keeping the international code requirement. Members age 45 and older form 81% of this group.

By no means are all the members who favor dropping the code younger people or lower-level licensees. By license class, Extra, Advanced, and General class hams make up 48% of those who think Morse is now irrelevant, while Tech, Tech+, and Novice licensees add up to 52%. Members age 45 and older compose 77% of the drop-code population.

It has been ARRL policy to support keeping the international requirement for Morse code in order to operate at HF. Because a strong majority of ARRL members wants this policy to continue, the ARRL Board unanimously voted to reaffirm it at our January, 1997, meeting.

Let me emphasize to ARRL members who favor dropping the code that I intend you no disrespect. It is clear from your comments that you have thought about the subject carefully and are sincerely concerned about the future of ham radio. I urge all hams, whatever our views on this and other controversial issues, to remember that insults to others harm rather than support our positions. As rational participants in a scientific hobby, we should be able to debate issues without derogatory name-calling towards people who disagree with us or whose ham radio enthusiasms aren't the same as ours.

I believe that showing proper respect for hams who hold opinions different from our own, no matter how strongly we believe our own views are right, is the Amateur Radio way.



Highlights From The March WACOM Business Meeting

Treasurer's Report - Treasurer Kevin Smith reminds members that 1997 dues are required to be paid by the March meeting to continue receiving the WACOM Ham.

Board of Directors - The BOD Study Group reported their recommendations. In order to adopt the a BOD, By-Laws will need to be amended. Among recommendations, the Board should be made of three at large members and the four officers. The President and Treasurer will serve 2 year terms while the Vice President and Secretary serve one year terms. At large board members will serve three year terms, once a cycle of one board member to be elected very year is established. Proposed revised bylaws to be prepared for first reading next meeting.

W3CYO Repeater - No report.

HAMFEST - No report

ARES - Dave DeMotte , N3IDH reported that an ARES Net was activated for 36 hours to support Washington County EMA and the local American Red Cross during the recent tire fire in east Washington. More details will be reported next month.

VHF/UHF Net - Jim Grazulis, KA3KSP announce that John Grazulis, WO3X volunteered to be NCS. He will immediately enter the rotation. There is always room for additional NCS

to enter rotation. The average number of check-ins in 1996 each week was 21.

Education - Jim Burtoft, KC3HW reports that one student has already passed the Technician examination and eleven remaining students will take examinations at the VE session scheduled for March 13, 1997. (See page one story "Results of March 13th Volunteer Examination Session")

Proposal to Washington County Commissioners - President Paul Plants has learned that the property that was the subject of WACOM's recent proposal to the Washington County Commissioners is no longer available. A search for alternate county owned property will commence.

Miscellaneous Items -

- Dave DeMotte reports that a large bus is possibly available to lease by WACOM to go to the Dayton Hamvention. He will pursue that lead as well as renting a 15 passenger van for a day and a half.
- Traffic continually need to be passed into Washington County. If interested in assisting in passing traffic, tune into the local traffic net on 3.580 MHz, every day at 5:00 PM local time.
- Meetings Programs:
 - April 3-** For Hams Only will sit up a table for display and sale. This is a perfect time right after the class test.
 - May 1-** Kevin N3HKQ will talk about Satellites.
 - June 5-** A Swap N Shop with refreshments.

June 28- Field Day mark your calendars.

July 3- No Program

August 6 & September 4- Bill W3WH and Bob KB3IN will do a program on Why Should I Upgrade!

- If there is any interest in upgrading, maybe a class for General could be set-up. A suggested class start could be in October for 9 weeks.
- Don't hesitate in giving any suggestion for programs that you would like to see in the future.



(Continued from page 6)

nation is used as a noun there should be a space between the two components. Example: The station was transmitting on a frequency of 144 MHz.

Having no space OR hyphen is incorrect. Example of incorrect usage: The dipole length is 24cm. Two exceptions are as follows. A temperature followed by the degree symbol has no space and there is no space between a number and the percent symbol. Example: The temperature in the Hartford area has been above 90F every day for the past week. If you are giving temperatures in the Absolute (Kelvin) scale, there is no degree symbol used, so the space applies again. The temperature in my office is usually around 293 K. If you follow these rules, you will be correct 99% of the time.

Capitalization and Electrical Abbreviations

by Ron Long w8gus

It is hard to remember how to capitalize the electrical abbreviations we use every day. This memo attempts to replace brute force memorization with an explanation of the logic behind it all. Sometimes I see capital and small letters sprinkled willy-nilly, ever-changing from one sentence to the next. So here are some memory aids for those who have never thought much about the fact that there are reasons why.

GHz has a capital G, a capital H and a small z and kHz has a small k, capital H and small z. We hope you find it useful. I acknowledge the help of editors from ARRL and other places.

Abbreviations for the common electrical units we use each day are composed of TWO DISTINCT PARTS. The first or prefix is the multiplier. The second part is the unit name. They each have their own capitalization rules. If we always keep in mind the two different parts and remember a few simple facts, the number of errors will diminish markedly.

For the prefix we refer to the standard rules as specified in the International System of Units (SI).

PREFIX NAME	ABBREV.	MEANING
atto	a	10 to the power -18
femto	f	10 to the power -15
pico	p	10 to the power -12
nano	n	10 to the power -9
micro	lower case mu	10 to the power -6
milli	m	10 to the power -3
centi	c	10 to the power -2
deci	d	10 to the power -1
deca	da	10
hecto	h	10 to the power 2
kilo	k	10 to the power 3
mega	M	10 to the power 6
giga	G	10 to the power 9
tera	T	10 to the power 12
peta	P	10 to the power 15
exa	E	10 to the power 18

Note that most of the commonly used prefixes use a lower case letter. Two very important exceptions to us are

mega and giga whose abbreviations are always capitalized. The rule is that prefixes below 1000 use lower case and above 1000 use upper case. For us that usually means only mega and giga. Some of the prefixes are seldom needed, nevertheless, they have been included for completeness. Generally we use only powers of 1000. Thus the use of deci, deca and hecto is discouraged (dB excepted!).

Now for the second part, the unit name. Most units are named to honor a person and therefore the first letter of the name is capitalized in the abbreviation.

Some examples of common units are:

Hertz (Hz)	Henrich Hertz
Bel (B)	Alexander Graham Bell
Ohm (Ω)	Georg Simon Ohm
Watt (W)	James Watt
Volt (V)	Allessandro Volta
Ampere (A)	Andre Marie Ampere
Henry (H)	Joseph Henry
Joule (J)	James Prescott Joule
Farad (F)	Michael Faraday
Kelvin (K)	Lord Kelvin

That is all there is to it. But maybe some examples would be helpful. Here goes. Oddly whenever a unit is spelled out in full the convention is that it starts with a LOWER CASE letter, e.g. V becomes volt, F becomes farad. This runs against the rule that we should always capitalize names such as Morse, Kepler etc. whether the name is used as an adjective or noun. An important exception for AMSAT is Keplerian elements which by convention seems to be always capititalized. Note Hz, the very important unit for frequency.

In order to avoid conflict with the unit for inductance (Henry), we use a two letter abbreviation but only the first letter is capitalized. Some of the most common errors are associated with frequency. Some correct examples are: kHz, MHz, GHz. It is never Khz or KHz or mhz or mHz. In some fields we do actually use mHz - milliHertz but not usually in amateur radio. A decibel (dB) is a tenth of a Bel. It is never db or DB. In some cases there is also a suffix after the unit name. With antennas we refer to gain referenced to an isotropic radiator. The result is dBi. With respect to a dipole it is dBd. For circularly polarized

antennas we use dBic. There is no reason to capitalize circular (dBiC) although it is frequently seen. Small powers are often given in mW. We refer to receiver sensitivity referenced to one mW as dBm. We also frequently use mV (millivolts).

The SI system defines the base units of meter (m), kilogram (kg) and second(s). From our discussion one would think that the base unit would be the gram and that k would be a prefix but it is not so. Just remember that it is not Kg.

Two common length units are cm and km. The c is the prefix for 10 to the power -2 and m is the abbreviation for meter. Ditto for km.

The Greek letter abbreviation for micro (10 to the power -6) creates a special problem due to the limitations of the computers most of us use, especially for email. We usually use u for micro when Greek letter symbols are not available. The use of m for micro is not a good idea since it is unsafe to rely on context to tell you whether m means milli or micro. If your word processor cannot give you the Greek "mu" then you should spell it out, i.e. an inductance of 123.4 microhenry should not be quoted as 123.4 mH, but simply presented as 123.4 microhenry. The convention is that mH means a millihenry, and nothing else. Another problem is Omega (upper case in the abbreviation) for ohm. Spelling it out is the best solution. Here are a few comments about the use of hyphens. The examples relate to the topic of this article, i.e. units, but the rules apply in a general sense as well. What do we do when we combine a number and the abbreviation?

Rule 1: When the number plus unit combination is used as an adjective (compound adjective) modifying a subsequent noun there should be a hyphen between the number and the unit. Examples: John has built a new 144-MHz amplifier. A 30-dB attenuator is often useful.

Rule 2: Compound nouns do not need hyphens. Nor do compound adverbs (those which generally end in "ly"). Thus when a number/unit combi-

Science Fiction

By Richard Lederer

A student in science class wrote, "The universe is a giant orgasm". (Instead of organism). At the end of the student's essay, the teacher riposted, "Your answer gives new meaning to the Big Bang Theory."

"Scientists are hypothetical people," wrote a student in chemistry. The following student comments about science were gleaned from essays, examinations, and classroom discussions. These beguiling theories are in no way hypothetical. They are all real and attest to the high level of scientific literacy in our nation:

In some rocks we find the fossil footprints of fishes.

Many dead animals of the past changed to fossils while others preferred to be oil.

All animals were here before mankind. The animals lived peacefully until mankind came along and made roads, houses, hotels, and condoms.

Sir Isaac Newton invented gravity.

The law of gravity says no fair jumping up without coming back down.

Galileo showed that the earth was round and not vice versa. He dropped his balls to prove gravity.

Marie Curie did her research at the Sore Buns Institute in France.

Men are mammals and women are femammals.

Proteins are composed of a mean old acid.

The largest mountains are to be found in the sea because there is nowhere else to put them.

Involuntary muscles are not as willing as voluntary ones.

Methane, a greenhouse gas, comes

from the burning of trees and cows.

The spinal column is a long bunch of bones. The head sits on the top and you sit on the bottom.

Water is melted steam.

Mushrooms always grow in damp places and so they look like umbrellas.

A monkey has a reprehensible tail.

Some people say we condescended from apes.

The leopard has black spots which look like round soars on it's, body. Those who catch soars get leprosy.



A cuckoo does not lay its own eggs.

To remove air from a flask, fill the flask with water, tip the water out, and put the cork in, quick.

The three cavities of the body are the head cavity, the tooth cavity, and the abominable cavity.

Most books say the sun is a star. But it still knows how to change back into the sun in the daytime.

The cause of dew is through the earth revolving on its own axis-and perspiring freely.

Hot lather comes from volcanoes, and when it cools, it turns into rocks.

A liter is a nest of young baby animals.

The earth makes a resolution every 24 hours.

Parallel lines never meet unless you

bend one or both of them.

Algebra was the wife of Euclid.

A circle is a figure with no comers and only one side.

A right angle is 90 degrees Farenheight.

As the rain forests in the Amazon are shrinking, so are the Indians.

A major discovery was made by Mary Leaky, who found a circle of rocks that broke wind.

The skeleton is what is left after the insides have been taken out and the outsides have been taken off. The purpose of the skeleton is something to hitch meat to.

You can listen to thunder after lightning and tell how close you came to getting hit. If you don't hear it, you got hit, so never mind.

Genetics explains why you look like your father and if you don't, why you should.

A supersaturated solution is one that holds more than it can hold.

The pistol of a flower is its only protection against insects.

Respiration is composed of two acts, -first _inspiration, and then expectoration.

An example of animal breeding is the farmer mated a bull that gave a great deal of milk with a bull with good meat.

The hydra gets its food by descending upon its prey and pushing it into its mouth with its testicles.

If conditions are not favorable, bacteria go into a period of adolescence.

Water is composed of two gins, Oxygen and Hydrogin. Oxygen is pure gin. Hydrogin is gin and water. When oxygen combines with anything, heat is given off. This is known as constipation.

Cadavers are dead bodies that have donated themselves to science. This procedure is called gross anatomy.

The hookworm larva enters the body through the soul.

The WACOM HAM
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WACOM VHF/UHF Net
 145.49/224.4/443.3 Mhz
 8:30 PM Local Time

	Date	NCS
April	1	KA3KSP
April	8	WO3X
April	15	N3IDH
April	22	N3HKQ
April	29	KA3KSP
May	6	WO3X

WACOM 10 Meter Net
 28.340 Mhz

9:00 PM Local Time

	Date	NCS
April	1	W3WH
April	8	KA3VOM
April	15	KA3KSP
April	22	WB3GTE
April	29	W3WH
May	6	KA3VOM

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