CENTRAL OKLAHOMA RADIO AMATEURS
COLLECTOR AND EMITTER
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INDEX

HOW TO BUILD A HOME COMPUTER

Despite what you've heard from computer salesmen, home computers are actually straightforward devices that can be built in an afternoon by anyone who has a few simple hand tools and the brains of a spittoon.

Perhaps you don't think you need a home computer, but believe me, you'll find lots of uses for it. For example, we use ours to handle our financial affairs.

In our precomputer days, angry bill collectors were always calling us up and demanding money. But now, thanks to our computer, when they call we simply tell them: "I'm sorry, but we are experiencing technical difficulties with our personal home computer and we cannot give you any information with reference to this bill at this time." Bill collectors are impressed by this proffessional technical explanation, and as a result they hardly ever call us anymore, although they tend to send large, armed persons to visit us personally.

Once you have gained some experience with your computer, you can program it to do all kinds of things that computers owned by major corporations do, such as destroy the credit ratings of people you don't even know, or answer your telephone automatically and tell your callers that everybody in your house is too busy to talk to them. And besides all these advantages, my easy-to-make personal home computer, which is the result of months of research, experimentation and heavy drinking, can actually heat your home. Impossible, you say? Why not build it and find out?

First, head down to your home workshop and gather together the tools and materials you need.

> TOOLS: A screwdriver, an ice pick, a drill, a Bowie knife, a hacksaw (optional), and something to melt solder with, such as a soldering gun.
>
> MATERIALS: Solder, a television set, and 8 to 10 pounds of assorted electronic parts, which you can buy wherever they are sold. I find that transistors work best, although you can use diodes, provided they are fresh.

STEP 1: PREPARING THE CABINET

Now you are all set. Remove the back from the television cabinet, and, using your ice pick, chip out the insides and throw them away. Next, using your Bowie knife, stab the top of the cabinet to create an 8-inch gash (see Drawing 1).

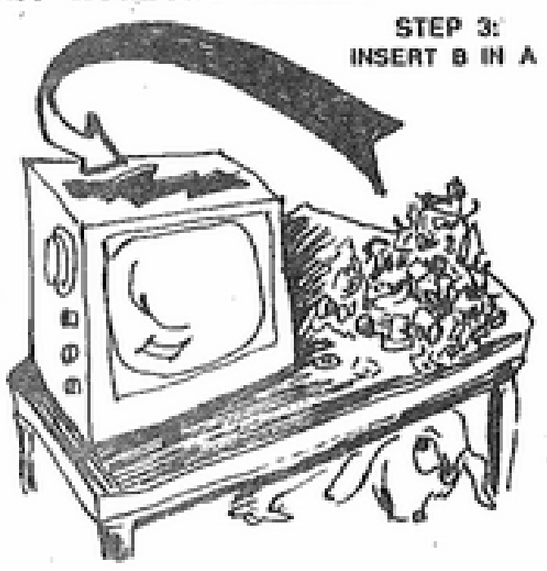
Now arrange your electronic parts on your workbench in an attractive display and melt solder on them until they are all stuck together, taking care not to drop too much molten solder on your dog (see Drawing 2). Next, you can either wait for the parts to cool off, or, if you are in a hurry, simply dump them into a bucket of water. (CAUTION: Never touch the hot parts with your bare hands. Ask a neighbor to do this.)

Once the soldered-together parts are cool, drill a few holes in them and screw them to the inside of your television set.(see Drawing 3), using your optional hacksaw on either the television set or parts to insure a good fit. Now all you need to do is re-attach the cabinet back and check to make sure your fire insurance is paid up. You're ready to enter the World of Home Computing.

First you'll need some data to put in, or "input." Have your children to go around the house, inside and out, and gather up, or "upgather" all of your bills, check stubs, candy wrappers, receipts, lawn clippings, tax records and lint balls. The more data you give your computer, the better it will work. To input your data, simply stuff it into the Bowie knife slash.

Next send your children to another room, or, if possible, another state; then plug your computer in. For a few seconds, nothing will happen, but then you'll hear the computer start to process, or "process" the data. Before long, you'll actually be able to see it working, even smell it; after 20 minutes or so, your computer will be processing data at such a rate that your entire house will be warm as toast. In fact, this easy-to-make personal home computer produces heat so effectively that since I built mine, we haven't spent a nickle on home heating, primarily because of the medical bills. + + +

STEP 2: SOLDERING



STEP 3: INSERT B IN A

RODALE'S NEW SHELTER

CORA COMMENTS

NO MINUTES. Just what I remember from Tuesday's CORA meeting.

Quite a bit was accomplished and I will just hit the high points so this can get to the printer on time. Your club representative will give a detailed account at your next club meeting.

The biggest item both in importance and dollars was the budget. It looks like a re-run of last year. We are now budgeted for $7,275.00, within a few dollars of last year but rearranged to account for some new features this year. In spite of practically everyone else raising prices they voted to keep the registration fee the same - $6.00 pre-registration and $7.00 at the door. That means we will need 1000 attending but that should be no big deal, it has been well over that for four years.

The Saturday night "banquet" (no long speeches) will be buffet style with Swiss steak and ham as a meat choice with vegetables, salad, dessert and drink. That will be at 7:30 pm and then on to the dance floor at 9 bells to gyrate to the tunes of a good live band. The Quality Inn at Eastern and I-40 was chosen. How much? Well that wasn't settled exactly but it looks like $11.00 for the dinner and dance (finalized next month) but if you can't make the dinner the dance will be avalable, with $3.00 per single and $5.00 per couple bandied about. Oh, yes, the tables will be round.

We received ARRL's blessing to have the 1983 State Convention in conjunction with Ham Holiday.

The treasurer reported that there were three clubs that had not paid their C&E subscription bills for periods up to 19 months. One of the clubs account was straightened out in a few minutes and George was requested to write a well worded letter to the trearurer and president of the other two. Then it was voted that all billing would be quarterly and any club 90 days in arrears would have all its mebers dropped from the mailing list after a second reminder.

The above may result in loosing a club but that slot was filled by accepting the request for CORA membership from the CIMMARON Amateur Radio Association, in the Fairview area, to join us. Welcome, and we will help you-you help us.

A radio is needed at the National Weather Service. About $200.00 is needed. Donations are to be requested from your club or you. Who has a GOOD 2 meter rig they want to donate?

Okla City amateurs are needed to check on the operation of sirens . See the location article on page 13, volunteer AND DO IT.

Art, W1GOM the new ARRL Section Manager will check on CORAs participation in the run "Beat For Brahms" to be held in OKC April 23.

Joe, WA5ZNF

FOR SALE: TR9000 All Mode 2meter XCVR, MC46 autopatch mike, PS-20 AC supply, SP-120 spkr, BO-9 Base system unit, Mobile mount, All cartons & manuals - Mint - $300.00.
Astron 35 Amp, regulated p0wer supply. $70.00.
Mirage, 2 meter amp, 10 in 160 out. It's sick. $75.00. AEA MBA-RO CW, RTTY, ASCII, reader., $100.00. TS-830S with CW filter and SP230 speaker. Call, you won't believe the bargain cartons and manuals. Ben, K5IRO, 348-4264 before 7:30pm or after 10:00pm.

THESE CORA MEMBER CLUBS PROMOTE AMATEUR RADIO

1 AERONAUTICAL CENTER ARC
MEETS: 8:00 pm First Friday at Flight Standards Bldg., FAA Aeronautical Center

PR	K5LDI	Tom Mangham	677-5291
VP	AF5X	Jess McKenzie	329-1543
Se	KA5JCX	John Mooney	794-8519
Tr	K5RJR	Larry Vorheis	789-9629
EDITOR: John Mooney, KA5JCX			794-8519

2 OKLAHOMA CENTRAL VHF CLUB
MEETS: 10:00 am Third Saturday, Red Cross 10th & Hudson (Backdoor) Okla City.

PR	WA5HTL	Paul Asplin	787-4286
VP	KD5IS	Jerry Wetmore	524-5080
Se	K5JB	Joe Buswell	732-0676
Tr	W5KE	Ellard Foster	789-6702
EDITOR: Joe Buswell, K5JB			732-0676

3 MID-OKLAHOMA REPEATOR, Inc.
MEETS: 8:00 pm First Tuesday, Okla City EOC, 4600 N Eastern

PR	N5EPV	Bob Allen	n/l
VP	KD5DL	Holly Stewart	
Se	KA5CXW	Fred Taylor	528-1537
Tr	W5KOZ	Sid Gerber	737-1050
EDITOR: Susie Atkinson, KA5FED			842-8014

4 OKLAHOMA CITY AUTOPATCH ASSOCIATION
MEETS: 7:30 pm Third Tuesday, Okla City Fire Dept Training Center. N. Portland

Pr	N5IH	Henry Israel	722-3848
VP	K2GKK	D. C. Macdonald	672-4947
Se	WB5NDO	Kathy Whited	799-1457
Tr	K5GL	Guy Liebmann	787-9545
EDITOR: "Mac" Macdonald, K2GKK			672-4947

5 OKLAHOMA UNIVERSITY AMATEUR RADIO CLUB
MEETS: 7:00 pm Second Tuesday(Sep-May) 119 Wilson Center, 1334 S Jenkins

PR	KE5N	John Wustenberg	325-2262
S/T	KA5LZN	Greg Smith	325-3218
EDITOR: Greg Smith, KA5LZN			325-3218

6 ALTUS AREA AMATEUR RADIO ASSOCIATION
MEETS: 7:30 pm Second Thursday North Main Fire Station (CD)

PR	KA5MPK	Gary Alexander	482-0857
VP			
S/T	KA6RTX	Bill Flattery	482-1155
EDITOR: Bill Flattery, KA6RTX			482-1155

7 BICENTENNIAL (76'ers) ARC
MEETS: 7:00 pm Second Tuesday, Air National Guard, Will Rogers Airport.

PR	N5BFD	Jim Hopkins	947-0043
VP	WD5JNT	Ted Vanlaningham	262-1675
Se	N5AUH	Jerry Sproul	354-2061
Tr	WB5VBE	Dale Moore	721-6142
EDITOR: Bruce Goff, KC5CR			751-6276

9 WHEATSTRAW AMATEUR RADIO CLUB
MEETS: 2:30 pm Second Sunday. Location varies. See club section for location.

PR	KA5FUU	Tom Johnson(El Reno)	262-5631
VP	KA5DUO	Leo Peil (Canton)	886-2996
S/T	WA5PFK	Ralph Wilder(Watonga)	623-4521
EDITOR: George Maschino, K5GGL			263-7614

12 SHAWNEE AMATEUR RADIO CLUB
MEETS: 8:00 pm Second & Fourth Tuesday Shawnee City Hall (EOC)

PR	KD5NX	Jay Tingler	273-3033
VP	N5CGZ	David Stanley	273-4226
S/T	W5TQZ	Herbert Holton	598-5984
EDITOR: Earl Couch, WB5ZBA			589-3212

13 KAY COUNTY AMATEUR RADIO CLUB
MEETS: 7:00 pm Third Thursday at EOC Ponca City

PR	WA5UBO	Marsh Pronneke	363-2526
VP	WB5NQT	Pat Burnham	765-7229
S/T	WB5YRN	Delbert Foiles	762-4479
EDITOR: Marsh Pronneke, WA5UBO			363-2526

15 SOUTH CANADIAN AMATEUR RADIO SOCIETY
MEETS: 9:30 am Second Saturday, Red Cross Bldg., North Campus, Norman OK

PR	K5KDR	Bill Oliver	329-1311
VP	KA5MIZ	Bob Rabin	360-6996
Se	KA5EFJ	Ken Neptune	321-7789
Tr	WD5GTC	Gene Johnson	321-6759
EDITOR: Sam Barrett, WA5RPP			321-2601

16 EDMOND AMATEUR RADIO CLUB
MEETS: 7:00 pm First Thursday. See club section for location and type.

PR	WD5DYI	Mark Northcutt	755-4672
VP	WB5MLX	Glen Cochran	942-7148
S/T	WB5UIY	Stan Van Nort	N/L
EDITOR: Stan Van Nort, WB5UIY			N/L

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18 GREAT PLAINS AMATEUR RADIO CLUB
MEETS: 7:30 pm First Tuesday, Civil Defense room Woodward Courthouse.

PR	WBØPGD	Ron Tice	994-2138
VP	KØCIO	Larry Ellis (316)	582-2889
Se	WBØQGW	Carla Tice	994-2138
Tr	NC5C	Gerry Ford	256-5382
EDITOR: Carla Tice, WBØQGW			994-2138

19 SOUTHEAST OKLA AMATEUR RADIO ASSN.
MEETS: 7:30 pm Second Monday. Location varies. Contact a club officer.

PR	WB5TTU	Ron Henson	326-5418
VP	WB5ULI	George Weldon	326-5672
S/T	WD5FUE	Orville Kaley	326-3650
EDITOR: Ron Henson, WB5TTU			326-5418

20 ARDMORE AMATEUR RADIO CLUB
MEETS: 8:00 pm First Wed. Red Cross Bldg. Informal, 8:00 pm other Weds. 221 9th NW

PR	W5HJ	Tom Banks	226-3350
VP	WB5VBK	Fred Innis	223-1709
Tr	W5BLW	Charles Dibrell	226-0589
Se	WA5YOM	Tim Vandagriff	223-3582
EDITOR: John Merlyn,WD5FZD			223-9543

MANAGING EDITOR:
Joe Harding, WA5ZNF Phone 737-1044

CIRCULATION MANAGER:
Bob Graham, WB5NSV Phone 677-8685

ADVERTISING MANAGER:
We need one.

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CENTRAL OKLAHOMA RADIO AMATEURS, Inc.
MEETS: 7:30 pm Fourth Tuesday. OKC Fire Training Center, 800 N Portland

PR	WD5JNT	Ted Vanlaningham	262-1675
VP	K2GKK	D. C. Macdonald	672-4947
Se	N5BEQ	Jin Buswell	236-0368
Tr	K5GGL	George Maschino	263-7614

Club
NEWS

W5LOW
The Home Amateur Memorial
Station

FEBRUARY MEETING MINUTES

Meeting was called to order by President Paul, WA5HTL, at 10:04 A.M. with 14 members and guests present.

Ellard, W5KE, gave Treasurer's report and CORA report. He read CORA President Vanlandigham's Jan 30 letter to CORA members outlining preparations for Ham Holiday & meeting plans. The club expressed preference for a buffet rather than a sit-down dinner at Ham Holiday.

Motion was passed that Amateur Radio Workshops be started on Saturday mornings in connection with club meetings. K5JB will chair these workshops. (More on the workshops elsewhere this page.)

All the Directors were fired. Actually, the Secretary who was conducting the elections acted on tradition, rather than the bylaws, when he got three directors elected. There are no longer any Directors...sorry 'bout that.

Steve, W5VCJ, was presented with an engraved gavel honoring his service as President last term. His leadership, and particularlly his organization of the 25 year reunion were recognized in the presentation.

Jerry, KD5IS, conducted some discussion on communications for Red Cross Disaster Service. The group was reminded of standard operating procedure in helping various services in time of need.

It was decided to continue the Saturday morning meetings at 10 A.M., until further notice.

Meeting adjourned at 10:45 A.M. Joe,K5JB,Sec'y

AMATEUR RADIO TECHNIQUE WORKSHOPS

Next month will begin the first of, I hope, a continuing series ofAmateur Radio Technique Workshops (ART workshops, for short). It is something I have been thinking about for a long time but not too sure how to put it into effect. I enjoy getting up and gabbing about various aspects of Amateur radio, but there are many of us who know much more than I. Unfortunately, they don't like to get up and gab about it. There is definately a need for information exchange because there are those who just haven't tried some of the things that others have tried.

The idea of workshops came from my work. In high technology, things are happening fast. In order to help technicians stay up with the state of the art, formal schooling is provided but there is still need to disseminate practical information gained from experience. When the need arises, we conduct workshops where the schedule is laid out in general terms and the majority of the information passed is from the participants themselves. It is the old school of hard knocks technique.

The subjects for the ART workshops will be announced beforehand but the agenda won't be so rigid that any subject remotely related to Amateur Radio couldn't be discussed. I expect that technical subjects will predominate but the other aspects of Amateur Radio are also important and they will be covered also. Art, W1GOM, Oklahoma Section Manager, ARRL, was asked informally if he wouldn't like to cover some of the League related subjects, or traffic handling, or whatever, and he seemed to think it was a good idea. Mike, N5MS, has been popular with his discussions of the Law (and whatever else he might have in his bag of tricks at the time). I feel sure he would make a workshop if his arm was twisted.

We can probably get some of the repeater trustees in to discuss some of the technical aspects of that equipment. Those with HF portable and mobile experience can give us some tips in those departments, particularlly in the area of antennas.

The club business meetings are usually pretty short, lasting 20 to 30 minutes. This means we can start the workshops about 10:30 A.M. and wrap them up around noon. Needless to say, it won't be necessary to be a club member to join the fun, but if you like what you see you might want to join up.

The first subject that came up when the workshop idea was kicked around in the meeting was antennas, in fact, after the meeting, we got off into some antenna and feedline discussion. This is such a broad and important subject that we may just have several workshops on antennas. Since it is time of the year to be straightening out the winter weary wires, we will be discussing hf antennas next month. We may use the W5LOW antennas as worthwhile subjects because I just happen to know that those particular antennas exhibit just about all the squirrely characteristics an antenna/feedline combination can have. (and I looked out the bathroom window the other day and saw one of the dipole tethers draped over some other wire on the roof...probably someone's black magic tuning technique...)

These workshops won't necessarily be 'stand up and talk at the blackboard' sessions, though I express myself best that way. We will try to have some hands-on excercises and testimony from the participants.

The scope of these workshops will be pretty broad and some of the technology will be undoubtedly pretty heavy, but, it is my intention to have enough flexibility to answer questions that any amateur might have, be he or she novice or extra class.

Let's see how it goes and alter the course as necessary to make it a fun and worthwhile thing. I have been around here long enough to know a lot of talanted people, and there are a lot more whom I have not met yet but would like to. I am excited about the idea so let's see how it goes next month. Joe, K5JB

DB'S-HOW TO FIGGER 'EM

Nothing is handier than a dB for expressing wide range of power or voltage levels and nothing is more worthless than a unit of measure than one cannot relate to. For example, I am having a heck of a time with Newtons per fortnight. Well, let's clear up some of the mistery of the dB.

Ordinarilly, dB (decibel, meaning one tenth of a Bel) is used to express a ratio. In rating a person from zero to ten, the scale might be linear, meaning 10 is twice as good as 5. In the bag rating (one bag is the one you put over his or her head. Two bags you put over each of your heads in case one falls off) two bags might be four times as bad as one bag and a coyote may be sixteen times as bad as a one bagger. (a coyote is one you would gnaw off an arm to get away the next morning without waking him or her.) In the bag and coyote system of values, the scale is not linear but geometric, each value is jumping at a greater rate from the last jump. In this example, the units are jumping in powers of two.

Now without going into the whyfor of logrhythms, suffice it to say that in nature, a lot of things seem to follow a logrhythmetric progression, hearing and seeing, for example. A.G. Bell, who conducted a lot of experiments with the problems of hearing, and invented the telephone in the process, is honored by using a misspelled version of his name for the unit Bel. (That's why it is capitalized.)

For our purposes, it is necessary only to remember only a few key values of dBs and guess at the rest. Also it is important to distinguish between voltage (or current) ratios and power ratios. It is not hard to remember which is which if you remember the relationship that power is affected by a square of the voltage. In other words if the voltage across a load is doubled, the power dissipated by that load is quadrupled. (3 times the voltage causes 9 times the power,etc.) Sometimes we talk in voltages, like "microvolts of sensitivity", and sometimes we talk in terms of power, like "kilowatts output" but when we talk about dB of gain or loss, it makes no difference whether we were measuring power or voltage. a dB is a dB (except when it is a dBm, and we will cover that too).

Now let's look at some values. if one remembers three or four values, he can make a pretty good guess at most other values of dB. The two most common values are 3dB and 10 dB. 3 dB is pretty darned close to a ratio of two to one (within 0.4%) in power levels. This means if power is doubled, it will be increased 3 dB. If it is halved, it will be decreased -3 dB. In terms of light and sound, this change is clearly perceptable. (one dB power level change is usually considered threshold of perception.) 10 dB is a power level change that is appreciable. When the guy on the other end kicks in the amplifier that doubles his power, the change is noticible but does not usually bowl one over. When he kicks in 10 dB it usually sounds worthwhile!

Combining these two values gives us the ability to guess at most values of dB. For example, 16 dB is a combination of 10 dB + 3 dB + 3 dB, or 10 times 2 times 2 or 40 times change in power. If you want to get a close approximation of one dB, try this: 6 dB is 3 dB + 3 dB, or 4 times power level change. 7 dB is 10 dB - 3 dB, or 10 times 1/2 = 5 times power level change. If 6 dB is 4 times and 7 dB is 5 times then the change of one dB causes 5/4 power ratio change, or 1.25. This is only an approximation because the 3 dB is not exactly two to one, but it is pretty darned close.

Now, by knowing 3 dB and 10 dB, you can sit down and figure <u>any</u> power ratio with a pretty good degree of precision but usually it is not necessary to get that precise. What is more important is to understand the larger values of dB because that is where they really become useful. When ratio of power levels becomes as great as a million to one, the numbers in the linear scale become quite cumbersome. Let's scale up our numbers. Leaping off the 10 dB value into the bigger numbers is easy. 20 dB is simply 10 dB + 10 dB or 10 times 10, or 100 times change in power. Likewise, 30 dB is 1000 times, 40 dB is 10,000, 50 dB is 100,000 and so on. Now look at the numbers. There are 5 zeroes in 100,000 and it is expressed as 50 dB.

On the minus side, -20 dB is -10 dB + (-10 dB) or 0.1 times 0.1 or .01. -30 dB is .001 and -40 dB is .0001. In these examples, it is perhaps easier to count how many times the decimal point must be moved to the right to make a one. If the units are expressed in engineering prefix units, this becomes a bit easier but we will cover that in a moment when we get into absolute values of dB. One way that might make it easier to do without taking out a piece of paper is to mentally convert .001 into its english language equivalent, "one one thousandth". One thousand has three zeros. Get it?

There is a lot of stuff packed in the last two paragraphs. If you understand that much, the rest is a piece of cake. I personally think in terms of power level changes and convert voltage level changes into power level changes instead of trying to relate voltage ratios to dBs directly. For me it is easier to mentally square a number than take the square root of a number. In terms of voltage ratios, only one comes to mind immediately. If the voltage is doubled, it can be expressed as 6 dB. Using the voltage-to-power conversion scheme, a doubling of voltage causes a quadrupling of power. This is a doubling-doubling, or 3 dB + 3 dB, or 6 dB. You will use 6 dB so often that it will become one of your easily remembered reference values, like 3 and 10 db. One of the other voltage ratios that is easy for me to convert is 10. This causes a 20 dB change because 10 times 10 is 100 which, naturally, is 20 dB.

If we had started by discussing voltage ratios first when expressing them as dBs, it wouldn't have been too bad converting ratios to dBs but the reverse would have been a little bit more difficult without a calculator. Take the following examples: Voltage ratios of 2, 4, and 8 are 6dB, 12 dB, and 18 dB, respectively. Voltage ratio of 10 is 20 dB. This is the first number we hit that can be mentally divided and multiplied easily. Even then, we have to deal with the "2" in 20. Given a problem of converting 10 dB to a voltage ratio we are faced with taking the square root of 10 or guessing that the ratio is somewhere between 2 and 4 (6 dB and 12 dB). I guess my problem is the resolution which isn't as good as the resolution that can be easily figured in my head using power ratios. If one first learned to manipulate voltage ratios it might be easier for him to think first in voltage ratios and convert to power ratios. He still would have to take square roots, while I am squaring the numbers. There is some argument for dealing with voltage ratios because bench measurements with voltmeters and oscilloscopes have to be squared to arrive at power values.

How about absolute values of dB? There is the good old dBm, or dB with reference to one milliwatt. In some circles the dBW, or reference to one watt, might be found. In audio and rf measurements, one milliwatt makes a good reference because it is easily measured with common instruments. Since these instruments measure voltage, the impedance of the load must be specified. In audio, because of the influence of the telephone, 600 ohms is usually taken as the standard reference where one milliwatt is dissipated in a 600 ohm load if roughly .775 volts is placed across it. If you look at the face of the trusty old Simpson, you will see a 0 dBm reference mark on the scale that reads .775 volts AC. If the audio level is raised to +30 dBm, one watt would be dissipated across that 600 ohm load. The corresponding voltage scale would read about 24 volts. (I had to grab the calculator to get that.) You may not be doing much 600 ohm audio work but that dB scale is useful across, say, an 8 ohm speaker. The absolute value means nothing but you can tell someone how hot his dual tone incoder level is in comparison to a whistle by hooking the meter across the speaker, selecting the AC function, and setting the volume control to some reference on the dB scale.

In the RF world, the reference load impedance is usually 50 ohms. 0 dBm would then be the square root of .001 watts times 50 ohms, or about 223 millivolts. A transmitter running one watt would have an output of 1000 milliwatts, or 30 dBm. One microwatt, would be -30 dBm. These are the engineering units we mentioned a moment ago. a kilowatt is 60 dBm and a picowatt is -90 dBm. This is about 7 microvolts, if my figures are right so we are talking about signal levels down to receiver range. In fact, 1 microvolt receiver sensitivity should be about -107dBm. Let's apply what we learned, and see what 1/2 microvolt is...should be half as much voltage, or -6 dB, so -107 - 6 = -113 dBm. a quarter microvolt should be about -119 dbm. In fact, -120 dBm happens to be .223 microvolts, which is pretty fair receiver sensitivity unless you are into "weak signal" work. Next time you look at a lab instrument it should look a bit more familiar...Joe, K5JB

Q. R. Zedd

WORLD PRESS GA-GA OVER ROMANCE RUMORS

It is not the business of a correspondent -- especially a serious technical correspondent such as yours truly -- to stray from the electronic straight and narrow in a publication such as the C&E.

However, we must with all apologies attempt to keep up with the whirlwind of rumors and reports concerning our own beloved Q. R. Zedd and his nubile, blond, 20-year-old QSL secretary, Tondelayo Schwartz, that have circled the globe and fascinated the media in recent days.

In a nutshell, the world is ga-ga over rumors of a storybook romance.

While we cannot confirm or deny these rumors, we can out of a sense of historical responsibility report some of ther highlights.

From The Norman Transcript, Feb. 17: Q. R. Zedd, noted amateur radio operator and inventor of radar and color television, left his ranch south of the city yesterday on a whirlwind worldwide tour.

Zedd, commonly known simply as "the greatest," was accompanied by his blond, nubile, 20-year-old secretary, Tondelayo Schartz, of Moose, Okla.

The pair was said to be aboard the Pacific Princess (the Love Boat) which Zedd chartered for one week....

From the Acapulco Bugle, Feb. 20: Sr. Q. R. Zedd, the best radio amateur radio operator in the world, briefly visited our city today in the company of a blond, nubile, 20-year-old girl, name unknown. He bought her several large diamonds and a parrot....

From the Rio Star, Feb. 26: Q. R. Zedd and his lovely companion, Miss Tondelayo Schwartz, danced till dawn yesterday on the Starlight deck of the Martin Borman Room....

From the Moose (Okla) Messenger, Feb. 27: Mr. and Mrs. Herman Schwartz, Moose, played host this week to Mrs. Constance W. Zedd, of Mena, Ark., in the Schwartz home.

The Schwartzes served weiners and saurkraut and sesame seed buns to Mrs. Zedd, who drove to Moose on a motorcycle about the size of the Goodyear blimp....

From the Women's Wear Daily, Feb. 26: What great Oklahoman, commonly known as the greatest DXer who ever lived, has been seen with what blond, nubile, 19-year-old (sic) secretary recently aboard the LOVE BOAT? We know, but we won't tattle, tra la, tra la.

From the Daily Oklahoman, Feb. 27: We don't know anything about this Q. R. Zedd and we don't know anything about any Tondelayo Schwartz, either, and we don't want to because we think it is disgraceful, they are probably part of Barry Switzer's crowd, going around making money and having fun and doing all kinds of bad stuff and not sleeping in church at night. If we have said it once we have said it a thousand times, where do people that aren't newspaper publishers get off, making money? We think they all ought to have to leave the state at once....

From QST, March: Let's all pitch in and handle more traffic, especially in our beloved CW....

There you have it... rumors abounding, but no definite word that could tell us with certainty that the greatest DXer of them all has finally decided to have a serious romance. We shall pursue this, we promise you.

At presstime, neither Mrs. Zedd in Mena nor the Schwartzes in Moose were answering their phones. Persistent calls to the Pacific Princess were ignored as Zedd worked the pileup but ignored the call of your reporter....

-- KU5B

Great Plains A.R.C.

I tell you, this has been quite a month! The big puzzle this month is - what's causing WBOPGD's inverted V problems. The SWR is too high. An Advance (KB5XI) and an Extra (NC5C) came by to help a Tech (WBOPGD) put up the antennas for his new HF rig. They were in and out all day trying various things. Now everyone is trying to figure out what is wrong. Some are excellent ideas and will be tried when the weather permits, and then there's others.....like KOCIO'S suggestion. Several decided that the rig was too far away and was using the coax as part of the antenna. So Larry told him to go set up a card table for the rig at the base of the tower. He could use the headphones as ear muffs to keep the snow out of his ears!

Talking about snow, boy did it! Snow fever hit the troops. WBOPGD was heard declaring how hot it was, he was ready to go get a sun tan and KA5DUO was ready to go plow the garden since the weather was so perfect for planting radishes. A few days later KD5JR was heard to agree, saying any self respecting gardner ought to have his radishes planted by now! KA5AAE wins the prize though, I think. He lives out in the boondocks and decided it was time to wander out. He got stuck three times trying to get out of his drive! Now guys and gals that's persistance! And I still don't know if he got out. WB5EDD is also persistent, he decided to go feed the quail and got his Jeep stuck. He had to walk out for a shovel! KOCIO said the only news from the North Pole is that they are catching polar bears. He has pushed snow all week feeding cattle. I think that maybe he has a severe case of snow fever.! N5CCV has taken his YL back and forth to work all week. Now that's chivalry. I had to drive myself.

The GPARC meeting was cancelled due to snow, snow and more snow! The hospital in Woodward called for emergency communications when the telephones went down. However, they came back on shortly but it was good to know that amateurs were ready to help.

KOCI and KA5AAE made a trip to Wichita and came back with new HF rigs.KA5AAE bought a new ICOM 740 and KOCIO has a new Kenwood 520S. Both are well pleased with their rigs.

Despite all the weather sixteen of the GPARC gang braved the elements and met February 16. The treasurer's and Secretary's reports were read and approved. N5CCV reported that Ray Miller sent him forms so we will now have our net reports in QST. KD5JR gave an update on the radar.

The EYEBALL QSO will be May 1 at Mocreland OK at the same place. So mark your calendars and come join us for a day of fun, trading, etc. There will be a $1.50 door fee this year to help alleviate expenses.

N5CCV gave a report on the proposed rules for the code free license. There will be an article in QST which he urged everyone to read.

We are happy to congratulate the new Novices John Christen, KA5PXX and David Kiser, KA5PCU. Welcome to the world of amateur radio and keep up the good work!

KD5JR then conducted a tour of the new radar facilities for the group. It is sure going to be nice and a real improvement over the old one!

73, Carla, WBOQGW

HAM RADIO HORORSCOPE

Pisces **Feb. 19 - Mar. 20** You don't like to take risks, and you tend to be lazy. If you can, you get others to work DX for you so you can watch TV. You always have guest operators in contests. You should avoid standing still too long or you may take root and have to remain there forever,. (This is the first of a series. Your turn will come in the months to come.)

NO-CODE:

FCC released the text of the no-code Notice of Proposed Rulemaking February 1. Remember, this is just a proposal at this stage, and you will have an opportunity to express your opinions to the FCC should you choose to do so. The deadline for filing comments is April 29 (May 31 for replies). March QST will carry the entire text of the NPRM along with instructions for the procedures for filing comments. Firing a nasty-gram off to the FCC about this issue may relieve your frustration, but it won't help your cause any. Please read the entire text in QST at least once, construct "cool headed" statements on the subject and file according to the instructions in March QST.

Although the full text will appear in March QST we will cover the high points here. With the exception of one paragraph, the tone of the document is conciliatory and focuses on the FCC's stated belief that some form of a no-code license will enhance the Amateur Radio Service by attracting (particularly) bright young computer enthusiasts. The NPRM is a smoothly polished sales pitch for the no-code concept. To be effective against this proposition, a counterargument must also be smooth and logical. It seems unlikely that venomous cries of outrage will have any positive effect.

Early on the first page of the NPRM, the FCC sets the stage for their arguments supporting the no-code concept. "We are doing this in the belief that there are intelligent, disciplined persons who can make a valuable contribution to the Amateur Radio Service without such a proficiency. These persons may include, but are not limited to, many of our nation's younger, school-aged individuals whose primary interest lies in the burgeoning field of computer technology or individuals with a physical handicap which prevents them from being able to successfully complete a Morse code examination." As an alternative to the Novice license, this new entry level license will allow these individuals to prove "they have the ability and discipline to make a serious contribution to the Amateur Radio Service."

No-Code Technician

After recounting some of the history of the no-code controversy over the last decade, the FCC gets to the heart of the alternative proposals presented in this NPRM. The first possibility is simply to delete the code requirement from the current Technician Class licensing requirements. The name of the class would stay the same. Technicians licensed under the current system (requiring the code exam) or those passing an optional 5-wpm code exam would have full Novice privileges. Technicians passing only the theory portion of the exam would have no privileges below 30 MHz but would have full privileges above 30 MHz.

FCC rationalizes that computer enthusiasts newly licensed as no-code Technicians would initially use radio-teleprinter modes (A2, F1 and F2). But because other modes would be open to them, they would have the incentive to learn other modes -- including A1. Also, it appears FCC has no intention of taking away any privileges of currently licensed amateurs.

The Experimenter

The second possible form of a no-code license discussed by the FCC is called the Experimenter. This concept is modeled loosely after the Canadian Digital Amateur Class Certificate, which requires examinations in radio regulations, radio theory, and digital techniques. The FCC proposes to create a new examination element -- element 5 -- which would be the sole examination required for the license. The Commission

Continued next page

invites comment on the appropriate content for this element. The NPRM notes that the level of the exam in terms of radio theory and regulations could be at or between the levels required for any of five current exams.

Noting that the examinations for both the Technician (General) and Extra class licenses cover digital techniques in some respects, the FCC asks if it would be wise to make up element 3 from existing elements. For instance, if the new element 5 were made up from current elements 2 and 3, the requirements for the Experimenter class license would be essentially the same as those of the proposed no-code Technician class license. The FCC points out that since the Experimenter class license would not give any privileges not afforded to other license classes (except the Novice) and since digital techniques would not be removed from examination elements for other class licenses, it would be a misnomer to call the Experimenter class by the title "Digital class."

Because the Canadian Digital Amateur Certificate carries privileges above 144 MHz, FCC is proposing 144 MHz as the lower limit of operation for the Experimenter class. FCC notes that there is nothing to prevent lowering this figure to 50 MHz (Ed: or raising it to 220 MHz) and invites comments on this topic.

Differences In Options

Viewed in the light of the hypothetical example of using current elements to make up the new element 5, there is relatively little to distinguish between the Experimenter approach and the codeless Technician. From an administrative point of view, the FCC clearly would benefit from the adoption of the codeless Technician approach. In fact, the FCC notes, "Implementation of the Experimenter class license may require the Commission to develop a new syllabus and provide, by some means, for the preparation and administration of new examinations. It would also certainly require the revision and reprinting of our application forms and other Commission publications as well as a complete revision of our data processing procedures and programs used for issuing licenses. We would be remiss if we did not consider these administrative burdens in weighing the respective desirability of the two license classes proposed. Accordingly, we request that this matter be addressed in the context of comments on this proceeding."

On the other hand, the FCC regards the no-code license as an alternative entry level license, comparable in function to the role of the Novice license on the hf bands. Assuming that the majority of those who would go the no-code route prefer vhf operation, there is no incentive to upgrade if the codeless Technician option is adopted. If, however, the Experimenter option is adopted with operating privileges limited to, say 220 MHz, then there would be incentive to upgrade to Technician at least. Further, element 5 could be constructed so as to encompass elements 2 and 3. Thus, the Experimenter exam would consist of the normal set of questions for the Technician written exam with additional coverage of digital communications techniques. Then it would only be necessary for the Experimenter to take the 5-wpm code test to upgrade to Technician.

This is also a hypothetical example, but it should give you some idea of the difference in the possibilities of the two approaches. For the convenience of the FCC staff, the no-code Technician would be preferable. Depending on the privileges granted, testing requirements and other factors to be worked out, it appears that the Experimenter might be less objectionable to the majority of presently licensed amateurs.

Background

After presenting the two alternative proposals, the FCC lists what they view as some of the strong attributes of Morse code as a mode of communication below 30 MHz. According to the FCC, Morse code as a mode of communications will "stand on its own feet" because of these attributes. The Commission notes that on the other hand, above 50 MHz, the Morse code is seldom used except for station identification and in certain weak signal communications modes. This lack of use persists in spite of the fact that all currently licensed amateurs have passed 5 wpm code tests. The FCC asks the question of why they should continue to require operators to pass a skill test "which may have less utility than other skills in these bands for which the license would be granted to operate." FCC notes that, for example, a typing test is not required for those who may use radio teleprinting modes.

The Commission states that they recognize this to be the "most controversial matter that we can raise with the amateur radio community. They even quote figures from the results of the ARRL survey conducted by the Florida State University Institute of Social Research which document the level of amateur opposition (see March 1981 QST, p. 17). They reiterate that it is their intention to enhance and not necessarily enlarge the Amateur Radio Service by attracting "fully-qualified, technically competent individuals, who are not presently part of the amateur fraternity." FCC will carefully consider comments on the advisability of granting access to the popular 2-meter band to the no-code licensees, particularly if the Experimenter Option is adopted.

FCC's Faux Pas

Finally, the Commission takes notice of the last-ditch-effort letter from ARRL President Vic Clark to the Commissioners asking for an 18-month delay in issuing this NPRM (Vol. 1, No. 5). President Clark had pointed out that it seemed unwise to introduce a new class of license at the same time we were attempting to get the volunteer examination program off the ground. In rationalizing not granting the delay, the FCC "took a pot shot" at ARRL and misrepresented the facts. "While we are completely sympathetic to the burdens involved with examination of amateur operator license candidates, we reject the ARRL's request. The ARRL has, in RM-4229, invited upon the amateur community the burden of the operator examination program . . . the commission is not forcing this burden upon the amateur community." Balderdash!

The enabling legislation that eventually was written into PL 97-259 came about because the FCC General Counsel determined that the Novice testing program was probably illegal. The Commission was neither able nor willing to perform that service itself. For the past few years, Field Offices have made it increasingly difficult to take an examination by reducing opportunities and requiring advanced registration. Once the enabling legislation was on track, the FCC informally informed ARRL that their budget would no longer permit them to give amateur examinations. ARRL "invited" this burden on the amateur community only because the FCC left no alternative.

The concept of a no-code amateur license is almost as old as Amateur Radio. The League has consistently and successfully opposed earlier FCC proposals. As recently as last March, the ARRL Board of Directors went on record "strongly opposing the issuance by FCC of any amateur license with no requirement for a knowledge of Morse Code." In July we learned that FCC would soon issue an NPRM on the no-code proposition. ARRL officials visited FCC Commissioners and staff, hoping to persuade them from taking this action at this time. President Clark sent his letter in a last-ditch effort to delay the NPRM. The FCC did not listen.

ARRL's course of action will be determined by the Board of Directors. Study the proposal and let your director know what you

Continued next page

More No Code

think. His/her address is on page 8 of QST.

The Commission has presented a smooth sales pitch that presents its arguments in a cool, logical manner. It takes notice of the controversy and even goes so far as to quote figures from ARRL's survey showing the depth of the opposition to this proposal. Obviously, FCC has not entered into this lightly or unprepared.

If you want to have a positive impact, carefully read the full text in March QST at least once. Construct cool, reasoned arguments for your point of view and follow the procedures outlined in QST for filing comments. If the Commissioners were voting on a no-code license today, there can be little doubt that they would approve the license and grant relatively generous privileges. The challenge to the amateur community is to overcome this predisposition through unity and the strength of our arguments.

UPDATED - 1 FEB 1983

STATE REPEATERS

FREQUENCY (in MHz)

INPUT-OUTPUT	LOCATION	AREA	CALL
52.680-52.525	OKC	Central	K5JL
144.51-145.11	Cleveland	NE	WB5MPU
4.61-5.21	Broken Arrow	NE	WA6HNO
.63-.23	Blackwell	N.Central	N5ANV
65/25	Choctaw	Central	WB5PNH
69/29	Enid	NE	WA7UIB
75/35	Stillwater	NC	WB5KQL
77/37	McAlester	SE	KD5KU
83/43	?	?	KB5OB
85/45	Fairview	NW	KI5P
87/47	Tulsa	NE	AB5M
89.49	OKC	C	WA5CZN
146.01-146.61	Beaver	NW	WR5ATW
.01-.61	Calumet	C	K5GDE
01/61	Hugo	SE	WB5TTU
04/64	Cavanal Mtn	E.C.	WR5AII
"	Granite	SW	W5CHE
07/67	OKC	C	K5ELL
10/70	Ardmore	SC	W5RFX
"	OKC	C	WA5TSJ
"	Tulsa	NE	K5LAD
13/73	Duncan	SW	?
"	Stillwater	NC	WB5KQL
"	Woodward	NW	W5HGH
16/76	Bartlesville	NE	?
"	Elk City	W.C.	WB5FBU
"	OKC	C	KC5CR
19/79	Altus	SW	WR5ANX
"	Ardmore	S.C.	W5BLW
"	Miami	NE	WR5AHX
"	Wewoka	SE	WB5OFC
22/82	OKC	C	K5JL
"	Tulsa	NE	WA5LVT
25/85	OKC	C	W5PAA
"	Muskogee	EC	W5EJK
28/88	Lawton	SW	WR5AJV
"	Norman	C	N5MS
"	Tulsa	NE	WA5LVT
31/91	Shawnee	C	W5TQZ
34/94	Durant	SC	?
"	Enid	NW	WR5ABW
"	OKC	C	WA5YTI
"	Tulsa	NE	WA5LVT
37/97	Ardmore	SC	N5AO
"	Claremore	NE	N5TM
"	Ponca City	NC	W5HZZ
146.40-147.00	Moore	C	WB5GSZ
46.625-146.025	OKC	C	KA5NUP
6.655-6.055	Bartlesville	NE	?
.985-.385	Pawhuska	NC	WB5DYR
47.135-147.735	Edmond	C	KC5GN
7.285-7.885	Ada	SE	WB5NBA
7.60-7.00	Tulsa	NE	WA5YPT
.63-.03	OKC	C	WD5AII
66/06	Norman	C	W5OU
"	Pryor	NE	KC5FM
69/09	Choctaw	C	K5EGQ
"	Oolagah	NE	WA5LVT
72/12	Guthrie	C	KA5EOS
"	Guymon	NW	KY5C

FREQ: IN-OUT	LOCATION	AREA	CALL
147.72-147.12	Mooreland	NW	KA5CJG
.75-.15	Sulphur	S.Central	WB5WBB
75/15	Enid	NW	WR5ABW
"	Grove	NE	K5PJR
78/18	Seiling	NW	KA5CJG
"	Tulsa	NE	WD5EVU
81/21	OKC	C	K5JL
84/24	El Reno	C	KB5RJ
"	Tahlequah	E.C.	WA6EAW
87/27	Stillwater	NC	K5FVL
"	Anadarko	SW	?
"	Tulsa	NE	WR5ASX
90/30	Alva	NW	KBØOH
"	Concharti Mtn	NE	?
93/33	Edmond	C	K5PL
"	Muskogee	E.C.	WA5VMS
96/36	Big Cabin	NE	WA5ICW
"	Byars	S.C.	WA5IQH
"	Laverne	NW	WD5CSW
99/39	Moore	C	K3TGY
"	Tulsa	NE	WB5NJU
222.28-223.88	Waurika	SC	WA6HGK
2.30-3.90	Tulsa	NE	WB5BET
.34-3.94	Grove	NE	K5PJR
"	Muskogee	EC	WB5AOH
46-4.06	Pryor	NE	KC5FM
50-4.10	Bartlesville	NE	KB5QJ
"	OKC	C	N5BEQ
3.34-4.94	Enid	NW	WR5ABW
"	Tulsa	NE	K5LAD
437.25-425.25	Edmond	C	W5LIL
439.25-421.25	Muskogee	EC	W5EJK
439.25-427.25	Grove	NE	K5PJR
439.425-427.425	Tulsa	NE	WA5LVT
443.20-448.20	Tahlequah	EC	WA6EAW
443.65-448.65	Del City	C	K6DBR
447.35-442.35	Blackwell	NC	N5ANV
7.55-2.55	OKC	C	K5YGM
8.10-3.10	Muskogee	EC	WA5VMS
8.30-3.30	Cleveland	NE	WB5MPU
8.85-3.85	Enid	NW	WD5HUT
8.90-3.90	Edmond	C	WD5FEI
9.10-4.10	Altus	SW	WR5ANX
"	OKC	C	K5JB
"	Tulsa	NE	WA5LVT
9.20-4.20	OKC	C	WD5AII
"	Tulsa	NE	WA5BPS
9.30-4.30	OKC	C	K5JL
"	Tulsa	NE	K5LAD
9.40-4.40	Enid	NW	W5HTK
"	Muskogee	EC	WB5AOH
9.50-4.50	Calumet	C	WA5FLT
9.60-4.60	Tulsa	NE	N5ANY
9.70-4.70	OKC	C	WD5FAM
"	Ponca City	NC	W5TXF
9.80-4.80	?	?	?
9.85-4.85	Claremore	NE	N5TM
"	OKC	C	WA5CZN
9.90-4.90	Stillwater	NC	WB5YWO
9.975-4.975	Moore	C	K3TGY

Oklahoma Repeater Society, Incorporated
submitted by n5beq

THE ZANY NEWS FREQUENCY

By JOE, WA5ZNF

KEEP IT LIGHT AND LIVELY

So you finally "volunteered" to be your club editor--by request of the President. Or, for whatever reason, you are the person who is responsible for the monthly input. Or, you have been doing it for years but can't put your finger on why members are not responding.

Over the years, by trial and error (and lots of post mortem) we have come up with some ground rules for the successful editoring of your part of the C&E. Some of these may not fit your particular situation, but perhaps a few will help.

Remember that you have considerable power in your pen. Word power. Unless you have an administration that insists that you hew to the line you will find that you can write pretty much as you please, as long as you include the essential club information and stay with the general guidlines of your basic club philosophy.

Don't abuse this power. Remember that your club is a hobby group, organized as a liesure activity. It's not a labor union, a political party or a protest group. Keep your editorials on the light side, with a definite positive outlook. Find occasions for compliments and praise. If an editor keeps complaining and lookingfor trouble he will probably find it and the membership may get discouraged and soon the few enthusiastic and active members lose interest and drop out. Don't be a sourpuss!

Names, names, names! Be it ever so humble, everyone likes to see his/her name in print. If you don't know all the names of the gang that participated in an activity, find out! And, please, don't forget the main cardinal rule: Spell it right! Don't guess at a member's name or call letters. Make it a point to receive a copy of the membership list, and also double check in the call book or telephone book if there is a doubt, or call Joe and he will check their membership slip.

Keep away from ethnic and off-color humor. The one outstanding quality of amateur radio is our world-wide friendship. Let's not let our personal prejudices show in your writings. Even the "inadvertant" slip should be carefully monitored. No amount of apology can erase a bad error in choice of words that might hurt someone.

Silent keys are a special problem. Fragmentary information will do more harm than good. If a name is misspelled, a date incorrect, a family member given the wrong first name, you will only increase the hurt and alienate the family. Always request that any silent key information be authenticated and complete, or don't print any of it.

Don't knock rival clubs--because we are not rivals. In the spirit of amateur radio, people who are interested in other amateur activities, or who live in different geological areas, will form new clubs. All together, they represent total amateur radio for your city, county, area or state. If another club makes some meritorious contribution, or has a bigger picnic than yours, mention it and offer congratulations!

In CORA we have some 16 clubs; we are not rivals, but do enjoy competitive activities. We don't line up and fire volleys at each other. In fact, CORA is composed of representatives of the several clubs in the state, and collectively plans many cooperative activities.

Proofread with a sharp eye. If you can't do it yourself, have someone with a good perceptive ability do it. Many otherwise excellent publications lose their shine when we stumble across poor spelling and misplaced punctuation. Your Managing Editor stands ready to help on any problem.

When I was learning printing many years ago my mentor repeatedly stressed the importance of "white space." He pointed out, correctly, that heavy pages full of type chased people away. Short paragraphs, white space between columns, nice margins, space above and below heads, avoiding all capital letters in text--all contribute to an inviting page.

Technical articles must be clear, complete and accurate. Next issue is not the time for a reader to find out that a resistor was incorrect and a ground left out. When you decide to reprint one, go over it carefully. Ask knowledgeable associates if it is complete and accurate. If the schematics are sloppy or unprintable, take the time to redraw them or clean them up. Pencil won't reproduce well.

Keep in mind the cost per page. Go over the material for size. Is an article overly long and rambling? Is this item really necessary, or is it someone's pet and overworked topic? Could six pages be reduced to four and still contain all the essential information?

I7Ve saved the lone wolf part for last. Most editors must go it alone. Over the years I have found that it is a waste of good space to cajole, plead or threaten for material. Members are either writers or newsgatherers, or they are not. Ifyou are blessed with a few writers, you'll get articles whether you want them or not. If there are none in your club, you'll be your own reporter and writer.

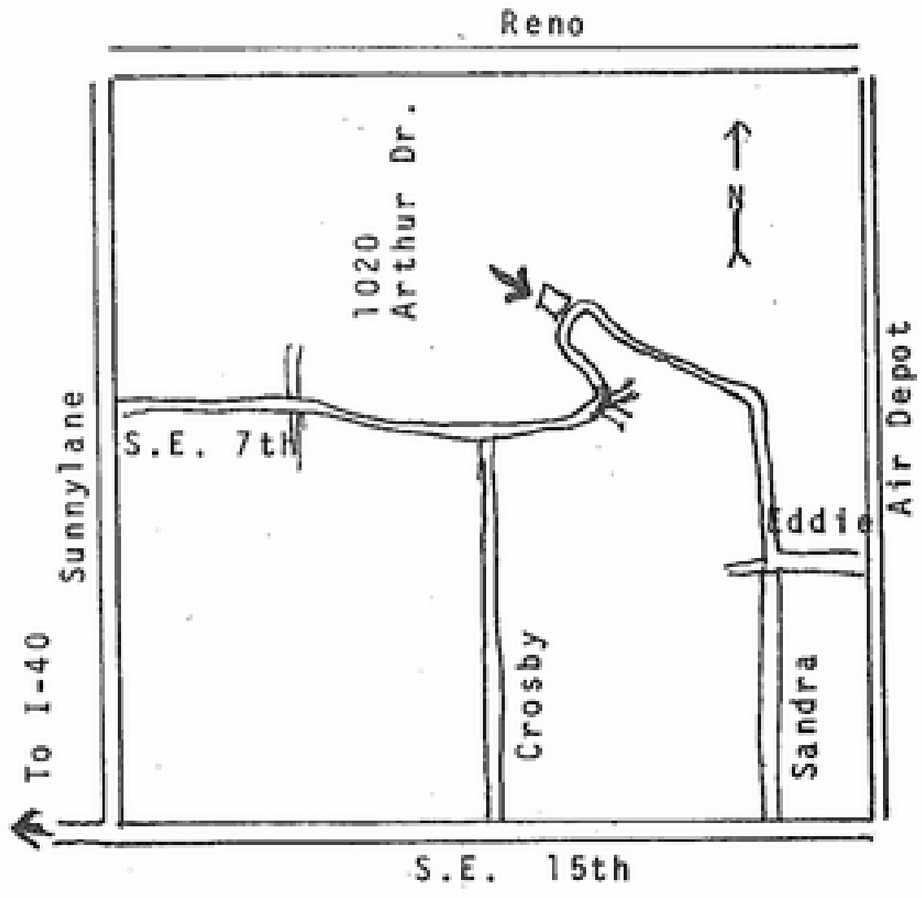
Hey, why don't we let this article be the beginning of a forum? Certainly all of you editors must have some hints on editing. I'm not speaking of the mechanical part of putting the C&E together; I'm referring to the gathering and writing of the stuff that goes into the columns. Lets hear from you!

Joe Harding, WA5ZNF

Now let's talk about the editing operation. With the experience we have gained it's not that much of a problem. -SO-becaur e of the stolen battery, broken car windows to steal radios, and other night incidents at the Red Cross bldg. I feel I must change the paste up place. GUESS WHERE? To my house at 1020 Arthur Dr. Midwest City. I know it is hard to find <u>if you don't mail your copy in</u>. I will monitor .94 that night to help if you get lost. There is a special MAILBOX on my front porch labeled C&E.

EDIT TIME, Monday night before CORA meeting. Forms close at 8:00 pm, hopefully but let's talk.I have a typewriter and COCO if needed.

Here is a map of my location in Midwest City I will be monitoring .94 after 5 pm on Edit night to talk you in if you get lost.



THE BIG SIGNAL NEWS
OKLAHOMA CITY AUTOPATCH ASSOCIATION, INC.

NEXT MEETING:
(3rd Tuesday)
15 March 1983

The March OCAOA meeting goes back to normal time and place: 7:30 P.M. at the Fire Department Training Center on North Portland between Reno and 10th Street.

The annual weather briefing in February played to standing room only. Dr. Ken Crawford and Neil Marchbanks put on a super program. Some of the slide sequences had to be seen to be believed. I'm not even sure that I can believe them after having seen them! If you missed it, you missed a good one. Look for a separate section regarding the operation of the weather net for 1983.

Overflow crowd that attended this years briefing

Last month I covered the repairs to our VHF feedline and UHF repeater. Unfortunately I didn't have the complete info on the folks who did the deeds for us. Our belated thanks (and apologies) go to Terry Shoemake (N5AUE) for his work on the 440 equipment and to George Adkins (AD1S) for his high altitude work on the VHF feedline.

On Saturday, Feb. 19th, a sizeable group got together for an outing to Shotgun Sam's Pizza in Midwest City. There were 16 present, including harmonics. The food was great, the musical entertainment was outstanding, and the company was even better. Don't turn your rigs off on Saturdays. More of these shindigs will be happening, and the word is spread on 82. Use the telephone? You gotta be kidding!

As I write this, I'm wondering what problem will crop up next with our repeaters. As we were finishing our pizza, a thunderstorm with lots of rain and electrical activity moved through the local area. Within an hour the output on 82 was greatly below normal. Buddy (KA5AQY) checked the 82 transmitter Sunday, but found no problems in the equipment at ground level.

Do you have any ideas for programs for Ham Holiday '83? Do you know someone who could present a program? Please get in touch with your CORA representative or alternate as soon as possible. They are: N5IH, K2GKK/5, WN5NWX, W1GOM, KA5BJS, or WB5NDO.

It looks like the Ham Holiday Saturday night banquet and dance will be at a hotel and not at the Myriad. Live music by a good band is looking like a sure bet. Kathy Whited (WB5NDO) is hard at work on the banquet arrangements, and Jane Roberts (who seems to be around W1GOM quite a bit) just about has the band arrangements finalized.

Come out to the March meeting and meet the guys and gals you've been talking to. Many (most?) go out after the meeting for coffee or eats. Join us. It could be habit forming!

Mac, K2GKK/5

CENTRAL OKLAHOMA

Severe Storm Warning Net Procedures

The actual procedures for conduct of the net will not change significantly for 1983. There are many minor changes and additions.

The use of "Grid Map" locations and standard "condition Codes" will be stressed much more heavily. Failure to use these aids to brevity greatly degrades the smooth and rapid passing of vital information to appropriate agencies. If you are not willing to comply, your participation in the net is not requested.

Grid maps with Condition Codes and other information are now available at three locations in the Oklahoma City area. These are:

a. Warr Acres Police Department
b. Midwest City Police Department
c. Troop "A" Highway Patrol (I-240 east of May)

If you are only a few miles outside the grid map coverage area, report your location as "8 miles north of Alpha-Two-One" or something similar. If you are farther out, the name of your town will do fine.

Check-in procedures will be a repeat of past years. You are to check in by saying only the suffix of your call. (the part after the number) If you have any doubt about the Net Control Station (NCS) understanding you, use standard phonetics. The NCS will query you after the call up to get your complete call and GRID LOCATION. NOTHING ELSE is needed or wanted unless you already have weather to report that fits one of the CONDITION CODES. Many seasons of storm net experience have proven that this is the most efficient way for NCS to take check-ins and gather information.

During the net session, no station may call another station without approval by the NCS. This rule is the primary rule of ANY net.

The second most important net rule is BREVITY. Keep all transmissions short and to the point. Occasionally a request will be made for a spotter to describe in detail what he or she is seeing. The rule is still brevity. While one observer is describing a wall cloud or circulation in detail, another spotter may have a funnel or tornado in view. Enough said?

In addition to the usual highly restricted net conducted when severe weather is close to our area, a "pre-net" or "post-net" may be conducted to track storms which do not immediately threaten the OKC area.

The "pre-net" or "post-net" will be conducted in not so strict a manner. The NCS of these nets will most likely be at the new "Information Station" in Warr Acres. This station has access to information through various sources, and will provide it when available and when necessary. This station will continue to operate during the standard net, but will lose the function of NCS.

The primary "RADAR" function will be the National Weather Service (NWS) station at Will Rogers Airport. Amateur radio operators will be stationed at NWS. NWS will provide advisories, bulletins, and warnings through the net. In general, NWS will issue these statements only once, due to the high level of activity there. These statements from NWS will be on record at the Warr Acres Information Station and can be requested from them if necessary. Please try to keep these requests to a minimum. NWS will update advisories regularly.

Amateur operators at radio/TV stations are to use their calls as their only identification. Such terms as "Channel 8" or "KXYZ" are NOT to be used during the net. If you are at such a location, you may inform NCS when you pass your GRID LOCATION during check-in.

We want your participation and hope you can understand the need for the procedures which have been developed over the years to speed orderly flow of information. Time is the goal. Time to warn and time to help prevent loss of life. We can't afford to waste time or life.

K2GKK/5

MID-OKLAHOMA REPEATOR ASSO.
WA5YTI

SECRETARY'S NOTES:

Minutes of the January Dinner meeting should reflect the pride we felt for the members and others honored for thier service to amateur radio these past years. We honored:
W5AS- Howard Baker..for his service as Bulletin Station for this area
N5MS: Mike Salem..for his service as Technical Editor for the Collector & Emitter
K5JB: Joe Buswell for his Technical Services and his articles in Collector & Emitter
WA5ZNF: Joe Harding for his fine editorship of the Collector & Emitter
WB5TFX: Ben Gard..for his fine service to Amateur Radio as Net Manager of Night Owl Net
WB5BXW: Gordon Johnston.. Manager of Womens Programs at Ham Holiday last year.
WA5GAM: Ronald Tutor..for technical service to the 07/67 repeator
N5BEQ: Jim Buswell..for service to ARES and to the Night Owl Net
WA5EAI: Ronald Cron...distinguished service as Trustee of the 34/94 Repeator
K5ELL: Merwin Adler ..distinguished service as Trustee of the 07/67 repeator
K5VVZ: Ken Eason..Asst Trustee and Technical Service with the 07/67 repeator..Distinguished SERVICE AWARD.
KA5FED: Susie Atkinson as Club Editor
W5KE: Ellard Foster as program support
KB5KT: David Baugh...technical support for 07/67
THE FOLLOWING WILL RECEIVE PLAQUES FOR THEIR LONG STANDING SUPPORT OF THE CLUB NEXT MEETING: K5JB, Joe; K5VVZ; Ken; WA5EAI: Ron; K5ELL: Merwin; and a special :W5KOZ for his superlative service as membership secretary and treasurer.

We had an especially good crowd January 4 and all had a good time. We enjoyed Mike Salem's discussion of the new FCC concerns.

KA5CXW Fred
Secretary MORI

Well, folks, here we go again - I warned you ! The Oklahoma City Civil Defense, in charge as always of the City's warning sirens, has installed and scheduled for their first test on March 5, 1983 at High Noon, ten, count 'em, 10, NEW sirens for us to try to cover during their testing. They are included in the complete listing following:

12 Water Tank, S W 89 & Linn
13 Fire Station #25, 2642 S W 59
14 John Adams School, S W 37 & Goff

21 Southern Hills School, 7700 S Kentucky
23 Rancho Village School, 1401 S Johnson
24 McKinley School, S W 53 & Shartel
25 closed Fire Station, 3416 S Robinson
27 Penn-Moore Mid-High School, 9400 S Penn
28 Police sub-Station, S W 89 & Santa Fe

31 Hayes School, 6900 S Byers
32 Hathaway Park, S E 38 & Lindsey
34 Bodine School, 5301 S Bryant

41 Lythe Park, N W 7 & Green Vale
42 Canadian River, 2200 S Portland
43 Jackson School, S W 26 & Villa
45 Westwood School, 1701 Exchange Avenue
47 easement, 901 N Oakdale (W of MacArthur)

51 OK County Courthouse, 320 W Robert S Kerr
52 Woodson School, 600 N High
53 Crooked Oak School, S E 15 & Eastern
54 Shidler School, S E 15 & Byers

61 4529 N W 36
62 Harlow Park, N W 19 & Harlow
63 closed Fire Station, 3801 N W 10
64 Madison School, N W 30 & Independence
65 Sequoyah School, 2400 N W 36

71 Ballet Center, 1236 N W 36
72 Hawthorne School, 2300 N W 15
73 Wilson School, 2215 N Walker
74 Jim Thorpe Building, 2101 N Lincoln Blvd
75 Fire Station #18, 700 N E 36
76 Fire Station #12, 2121 N Eastern
78 easement, 3045 N E 16 (Rear)

81 Surrey Hills Elementary School
82 North Ridge Elementary, 8501 N W 82
83 Harvest Hills School, 8215 N W 104
85 Hefner Road (N W 108) & MacArthur
86 Wiley Post School, 6904 W Britton Road

91 Longfellow School, 1201 N E 28
92 Fire Station #17, 2716 N W 50
93 Burbank School, N W 65 & Independence
94 Fire Station #22, 1105 W Britton Road
95 Fire Station #15, 2817 N W 122
96 Coronado Heights, 5911 N Sapulpa
97 N Highland Park, N W 82 & Harvey

Oklahoma City Lakes
1 Draper
2 Hefner
3 Overholser
(these get their regular test every Spring and Fall when "Small-Craft Warnings" are 'issued' by Oklahoma's winds Therefore, the lake sirens are NOT tested WITH these others but are available for warning use)

Come Join us semi-monthly on the first and third Saturdays at High Noon on OKC's 34/94.

n5beq, jim

AGE SAGE: HOW TO TELL IF YOU'RE GROWING OLDER or IS THERE REALLY LIFE AFTER 40 ?: When you're knees buckle and your belt won't...or, you sit in a rocking chair and can't get it to rocking .'. ...

n5beq, jim

UNIVERSITY OF OKLAHOMA

Amateur Radio Club | 46.28/.88

The OU AMATEUR RADIO CLUB resumed the 1982-83 school year with the first meeting of the Spring Semester, February 8th. The first order of business was to elect Luke, KA5BAY, as the new club President. Former Prez, KE5N - John, is working in Maryland during this semester. We had one visitor at the February meeting. Pradeep Arora, an OU student from India, attended the meeting to round up some assistance in studying and passing the Novice exams. He is an Industrial Engineering major.

It's not too early to think about severe weather, and several club members made the trek to OKC to attend the Channel 9 weather seminar by Gary England, and Meteorologist in Charge Ken Crawford, of the National Weather Service. As usual we will probably put volunteers at the Police Station and at the National Severe Storms Lab on North Campus. We have also discussed putting a spotter either in the pressbox at the stadium or in the 9th floor lounge of Dale Hall Tower. Both provide good vantage points covering a large area around Norman. Using these sites should give us good coverage with a limited supply of manpower.

During the semester break, Louis, KA5MMN upgraded to Advanced and now holds the call, KD5WA. Warren, KA5NOD, and Greg, KA5LZN, upgraded to General late last semester but did not change their callsigns.

The next meeting will be Tuesday, March 8th at 7pm. As usual this is the second Tuesday of the month and the meeting will be in room 119 of the Wilson Activity Center at 1334 S. Jenkins, just south of Lindsey Street. See you there!

'73 Greg, KA5LZN

TRS 80C Central Oklahoma Computer Organization

Minutes of COCO, INC.
The meeting was called to order by Bob Langmacher at 9:00 on Feb 5, 1983 at the Red Cross Center 323 NW 10th.
Bob introduced himself as the new chairman and then had each member or guest introduce themselves. There were 47 present even though the weather was bad.
OLD BUSINESS:
There is a new Color Computer Group organizing and meeting at TINKER on the first Wednesday after the COCO meeting at 4:30 CCPC Building 201, briefing room. For information call Jim Cantrell Home 670-2121 or Tinker 734-7455.
Another group meeting at TINKER (all computers) at the Hall Recreation Center at 7:00pm on Feb 16th.
Another reminder to submit articles to the C&E, typed or on tape can be submitted to Joe Harding. Must be no more than 46 characters wide.
NEW BUSINESS:
Bill Wright has filed Certificate of Incorporation on behalf of the club with the State of Oklahoma. Offical name - COCO, INC.
Spectral Associates has a modem for sale- $125.00.
Direct replacement keyboard can be purchased from Micronix Systems, 7 Gilbralta Sq, St Charles, Mo. 63301 for 89.95 plus 3.00 for COD. Phone 314-441-0341
PROGRAM:
Ron Hilburn did a super job discussing a black and white video monitor amplifier. Drawing was available. If you want better display get rid of the TV and switch to a monitor. Bob Graham demonstrated a Color monitor for the group.
- Ron also gave a program on modifing Atari joysticks for use on the COCO. Try it they work great.
Holly Holcomb took part of the group and discussed BASIC commands and workings of the COCO.

Bill Wright
Sec'y/Treas.

****
COCO, INC-Treasury Report.
Balance as of Feb 28, 1983 - $589.38
Bill Wright, Sec'y/Treas.
****
Received the Certificate of Incorporation, State of Oklahoma. Club as of Feb 1, 1983 is offically know as COCO, INC.

SUBJECT: EARLY PROGRAMS THAT LOADED AT OR NEAR 1536
(NOTE ALL ADDRESS LOCATIONS REFERENCED IN DECIMAL UNLESS OTHERWISE NOTED)

A. FACT SUMMARY
1. SOME SOFTWARE, BEFORE THE ENTRY OF DISK SYSTEMS FOR THE 80C, WAS PROGRAMMED TO LOAD AT OR NEAR 1536.
2. PROGRAMS LOADING IN THIS AREA OF MEMORY CONFLICT WITH THE DISK CONTROLLER.
3. MOST OF THESE PROGRAMS ARE MEMORY DEPENDANT AND CANNOT BE MOVED TO ANOTHER LOCATION IN MEMORY AND WORK PROPERLY.
4. THESE PROGRAMS CAN BE OFFSET LOADED, AND ANOTHER PROGRAM "OFFSET" LOADED AND EXECUTED TO CAUSE IT TO IN EFFECT TURN OFF THE DISK AND MOVE THE PROGRAM TO ITS PROPER PLACE AND EXECUTE IT TO RUN NORMALLY. A WORD ABOUT OFFSET LOADING. FOR EXAMPLE THE PROGRAMS THAT LOAD AT 1536 NEED TO BE MOVED HIGHER IN MEMORY, ARE THEY CONFLICT WITH THE DISK. TO FIGURE THIS YOU SUBTRACT PRESENT LOCATION FROM THE LOCATION YOU DESIRE TO MOVE TO, AND THE DIFFERENCE IS THE ADDRESS YOU NEED TO OFFSET LOAD WITH.

```
 4096 DESIRED MOVE
-1536 PRESENT LOCATION
=2560 OFFSET LOAD ADDRESS
```

EXAMPLE OF R/S ROM MOVE TO OFFSET LOCATION. IT IS ALREADY HIGH IN MEMORY AND IN THIS CASE WE WISH TO MOVE IT TO A LOWER PLACE IN MEMORY SO THAT IT WILL NOT CONFLICT WITH THE DISK PLUGGED IN AT 49152. THE TOP OF MEMORY IN THE 80C IS 65535, SO IT MUST WRAP AROUND THAT LOCATION AND START DOWN IN THE LOW END OF MEMORY. SUBTRACT THE PRESENT LOCATION FROM THE TOP SPOT IN MEMORY ADD 1, AND ADD THE LOCATION YOU WISH TO MOVE TO.

```
 65535 TOP OF MEMORY
-49152 PRESENT LOCATION
+    1 WRAP AROUND TO LOW MEMORY
+4096  DESIRED MOVE IN MEMORY
=20480 OFFSET LOAD ADDRESS
```

B. EXAMPLE-OFFSET LOADING PROGRAM
1. CLOADM"BERSERK",2560(FROM TAPE DO NOT EXEC.)
2. CLOADM"OFFSET"
3. EXEC
4. THIS WILL LOAD THE PROGRAM AT 4096 (WHERE IT WILL NOT RUN), THEN "OFFSET" WILL TURN OFF THE DISK SYSTEM, MOVE THE PROGRAM TO ITS PROPER PLACE IN MEMORY AND EXECUTE IT.
5. THE "OFFSET" PROGRAM CAN BE APPENDED TO END OF PROGRAMS TO SAVE LOADING OPERATIONS.
C. EXAMPLE-APPEND "OFFSET" PROGRAM TO DESIRED PROGRAM.
1. PROGRAM "BERSERK",1536,12288,1536(DETERMINE OFFSET ADR 4096-1536=2560)
2. CLOADM "BERSERK",2560(FROM TAPE DO NOT EXECUTE.)
3. CLOADM"OFFSET" (DO NOT EXEC)
4. CLOADM"CBUG" EXEC (NOTE: YOU MAY NEED TO GO TO 64K BEFORE STARTING THESE OPERATIONS DEPENDING ON WHERE YOUR "CBUG" LOADS IN MEMORY.)
5. DETERMINE THE BEGINNING AND ENDING ADDRESS OF THE OFFSET LOADED PROGRAM.
6. BEGINNING IS 4096 (ACCOMPLISHED BY OFFSET LOADING)
7. ENDING 12288-1536+4096=14848 (DETERMINES THE NUMBER OF BITS OR BYTES OR WHATEVER IN ORIG PROGRAM AND ADDS TO 4096 THE SUM OF WHICH IS THE END ADDRESS 14848)
8. "OFFSET" PROGRAM ADDRESS IS 28672,28816,28672
9. ADD MEMORY ADDRESS TO END OF "BERSERK" TO COVER "OFFSET" PROGRAM LENGTH. 28816-28672+14848=14992 OR 144 BITS ADDED TO PROGRAM BEGINNING AT 14849 (ONE BYTE AFTER ORIGINAL PROGRAM END) THIS WILL ALSO BE THE NEW EXECUTION ADDRESS.
10. THE ADDRESSES WE WILL WORK WITH IN "CBUG" NEED TO BE CONVERTED TO HEX NUMBERS OR "CBUG" WONT COOPORATE.
"OFFSET",28672,28816
"BERSERK",4096,14992,14849(TYPE) .28672
(ENTER)= 7000 (HEX)
(TYPE) .28816 (ENTER)= 7090 (HEX)
(TYPE) .4096 (ENTER)= 1000 (HEX)
(TYPE) .14992 (ENTER)= 3A90 (HEX)
(TYPE) .14849 (ENTER)= 3A01 (HEX)
(TYPE) .14848 (ENTER)=3A00 (HEX)
(REFERENCE ABOVE ADDDESSES PAR C7 THRU C10)
11. WHILE STILL IN "CBUG" (USE HEX)TYPE M 7081 AND THEN TYPE 3A00(THIS CHANGES THIS MEMORY LOCATION TO CORESPOND TO THE END LOCATION OF THE OFFSET LOADED PROGRAM BEFORE APPENDING "OFFSET" THIS WILL VARY WITH DIFFERENT PROGRAMS)
12. WHILE STILL IN "CBUG"(USE HEX) IF THE EXECUTION ADDRESS OF THE ORIGINAL PROGRAM BEFORE OFFSET LOADING WAS ANYTHING OTHER THAN 1536 OR 0600 HEX THEN TYPE M 7086 THEN TYPE XXXX THE HEX NUMBER TO CORESPOND TO THE EXECUTION ADDRESS OF THE ORIGINAL PROGRAM.
13. MEMORY LOCATION CHANGE.
(TYPE) T 7000 7090 3A01 (THIS TELLS "CBUG" TO TRANSFER MEMORY BEGINNING AT 7000 THRU 7090 TO MEMORY BEGINNING AT 3A01, YOU HAVE MOVED "OFFSET" TO THE END OF "BERSERK" PROGRAM.
14. SAVE TO TAPE (IN "CBUG" TYPE S 1000 3A90 3A01 BERSERK (ENTER) AND IF YOUR RECORDER WAS SET TO PLAY RECORD YOUR MAKING A COPY ON TAPE)
15. SAVE TO DISK(WHICH IS WHAT WE ARE REALLY AFTER WITH THIS PROGRAM)

Continued next page

(TYPE) G (EXIT "CBUG")
(TYPE) SAVEM"BERSERK",4096,14992,14849
(ENTER) OR YOU COULD USE THE HEX NUMBERS AND
(TYPE) SAVEM"BERSERK",&H1000,&H3A90,&H3A01
(THIS WILL SAVE THE PROGRAM TO DISK WITH THE OFFSET ADDRESS SO THAT IT WILL NOT CONFLICT WITH THE DISK OPERATING SYSTEM AT 1536(0600HEX.)
D. LOAD FROM DISK
  1. LOADM"BERSERK"
  2. EXEC (THE PROGRAM WILL LOAD AT THE OFFSET ADDRESS 4096,TURN THE DISK OFF (OR AT LEAST CONVINCE THE COMPUTER IT IS NOT THERE), MOVE THE OFFSET LOAD TO THE ORI080AL ADDRESS BEGINNING AT 1536 AND EXECUTE THE PROGRAM, IN THIS CASE "BERSERK". ITS THAT EASY, BOY AM I CONFUSED.
E. REFERENCE MEMORY LOCATIONS IN PAR C.12,7081 AND C.13,7086. THESE ARE MEMORY LOCATIONS IN THE PROGRAM NAMED "OFFSET".
F. NOTE: DONT GET CONFUSED WHEN REFERENCE IS MADE TO OFFSET LOADED AND THE PROGRAM "OFFSET" WHICH WILL ALWAYS APPEAR HERE IN @UOTES, UNLESS I FOULED UP.
G. I HOPE THIS WORKS FOR YOU, IT IS QUITE INTERESTING TO PLAY WITH. THANKS TO MR. BGB FOR THE PROGRAMS "OFFUP3" AND "OFFSET".

HAVE FUN AND LET ME KNOW IF IT WORKS, SOUNDS GOOD. TODD WA5VAQ

CO CO REVIEWS

By George Adkins

This article will share some results of mail order maladies experienced over the past weeks after oders were placed for various Color Computer hardware and software. This is <u>not</u> a primer on how to deal with mail order dealers, as you will see.

These products were ordered:

1) **TELEWRITER 64** Word Processing Software by Cognitec
2) Color Computer **"FULL-SIZE KEYBOARD"** by Micronix
3) **SIGNALMAN MODEM** from Spectral Associates

1) **The Telewriter 64** was advertised in the November Color Computer News and was ordered by telephone directly from the manufacturer on December 15, 1982. Cognitec is located at 704 Nob Street, Del Mar, CA 92014 , telephone (619) 755-1258 (Weekdays, 8AM - 4PM PST).

Following the first call, I was told that diskette versions would be shipped in 10-14 days, with cassettes to follow in a few weeks. After waiting until January 4, 1983 a second call was made for an up-date--- in time for the January meeting of C.O.C.O. We learned that a "bug" turned up in the program and back to the drawing boards for the Cognitec brains. "Wait another 10-14 days." Ho-hum.

January 20, 1983 rolled around and another call to Cognitec, "Going to be shipped any day now...about a week." (Sure.)

February 4, 1983 and time for another C.O.C.O. meeting; another call to Del Mar, CA and we were told, "The diskette versions were being shipped TODAY!" (Oh boy)

Well, this article is being typed on February 17, 1983 and I am pleased to say that it is munched on the NEW Telewriter 64, still fresh from the grasp of the U.P.S. driver! A final call yesterday revealed that "a big batch of diskettes was shipped on Friday...and you should have yours soon..." (Those folks must have cue cards)

The verdict: 12 weeks from date of original order.

2) The "Full-Size Keyboard" for the Color Computer was ordered from Micronix Systems Corporation on February 7, 1983 after testing the 'prototype' on Hollis Holcomb's computer. It seemed to be a super keyboard with an excellent touch, and received good personal reviews from Frank Hogg (page 32, March 1983 Color Computer News)

On February 7, 1983 Micronix informed us that a fresh supply of keyboards had been received over the weekend and they could ship "the very next day," February 8, 1983. Hmmmmm.

I waited a respectable period of time for shipping but relented and called Micronix on February 17, 1983.... Are you ready, folks?

It turns out that the February 7 order "was just put into the computer" (whatever that means) on February 15, 1983 and should be shipped in the next couple of days. OK, but where have I heard that before?

After my experience with Cognitec, I ain't holdin' my breath. Several local folks HAVE received their keyboards, so perhaps Micronix is playing it straight. Apparently they do not manufacture the keyboard but merely are the distributor for this fine product. Micronix is located located at #7 Gibraltar Square, St. Charles, MO 63301, telephone (314) 441-0341.

The verdict: Still on appeal.

3) The **"Signalman Modem"** was prominently displayed in the Spectral Associates' Holiday Catalog published in mid-November 1982. When compared to the Radio Shack modem-- price and performance-- it looked like a good deal, so here we go again...

Spectral Associates is located at 141 Harvard Ave., Tacoma, WA 98466, telephone (206) 565-8483. They have a WATS for orders only- 1-800-426-1830. Spectral is one of the foremost providers of software for the TRS-80 Color Computer, so we were very confident when we first called on December 7, 1982.

Guess what? The manufacturer of Signalman (Anchor Communications) had not shipped the modems to Spectral nor were they expected "in time for Christmas." Oh well, no big rush.

Calling again on January 7, 1983-- same story; and again on February 4, 1983 when (at last!) Spectral stated that a Shipping invoice was received and the modems were expected "any day". (Sound familiar?) Being the trusting type, an order was placed on February 4, 1983.

The United Parcel man arrived on February ~~26~~ with the goods. A follow up call to the folks at Spectral revealed that the modem is in stock and available.

The verdict: 12 weeks from date of first advertisement.

Folks, two out of three isn't bad...for baseball. When we consider mail order, remember that the Color Computer is a very popular machine and even the best suppliers have trouble keeping up with the growing demand for software and peripherals. The moral of the story is deal with established, reputable companies, like Cognitec, Micronix and Spectral...and then be very, very patient.

A final note-- **DATASOFT** is reportedly having problems with the Color Computer version of the popular arcade game **ZAXXON.** It has delayed from February to "at least March 1."

Some dealers are telling me that a key programmer has quit Datasoft and the delay may be more than a few weeks. Good computing.

THE REVOLUTION You Might As Well Join It-- You Sure Can't Beat It!

COMPUTERS PART II

If you accept the definition that a computer is a mechanical, electromechanical or electronic device that can input, store, process and output data you will also have to accept that computer technology is thousands of years old. One of the oldest known computing devices is the Chinese abacus (invented circa 2000 BC). The abacus, when skillfully manipulated by its operator can add, subtract, multiply and divide. Although rudimentary in nature, the abacus was so fundamental to the the development of computer technology that it is still in use today.

Contributing to the long dry spell that followed the invention of the abacus was the fact that Western Civilization had to put up with a very cumbersome numbering system devised by the early Romans. Now known as the Roman Numeral System it was the first step toward the Arabic (decimal) numbering system in use today. The Roman system had character designations for exponential powers of ten. Because the resultant number groupings were so wide, they devised character designators for half of each base ten grouping. The table below should help clear this up:

$\overline{M}=10^6=1{,}000{,}000$ $M=10^3=1{,}000$ $C=10^2=100$
$X=10^1=10$ $I=10^0=1$
$\overline{D}=5\times10^5=500{,}000$ $D=5\times10^2=500$
$L=5\times10^1=50$ $V=5\times10^0=5$

As if this wasn't complicated enough, we had to pay particular attention to the order of these character designators. To determine the value of a Roman numeral we start at the right hand side of the number and start adding to the left. But we can only continue to do this if the designator on the left is equal to or larger than the one we just added. If it is smaller we must subtract instead.

For example:

II=1+1=2 [Remember—work from right to left]
IV=5—1=4
1st character on left is smaller—so subtract
MCMLXXXII=1+1+10+10+10+50+1000—100+1000=1982
Don't forget to subtract.

That sure was the long way around to write a number. Think of trying to make your computer do that conversion every time you input a number. Multiplication and division quickly become ridiculous.

Fortunately, the decimal based Arabic system came into being about the fifth century. For some reason, the Zero or placeholder was not developed for another four to five hundred years. By the thirteenth century, however, the decimal system as we know and use today was in widespread use.

Today the decimal (base 10) system is the standard numbering system in virtually every corner of the world. It is interesting to note, however, that although it was this system that enabled mathematicians and scientists to launch the computer age, few modern computers use the base 10 as their internal machine language. The most common numbering systems used are base 2 (binary), base 8 (octal) and base 16 (hexadecimal).

It was finally in the seventeenth century that things started to cook in the world of computers. First, a scientist name Blaise Pascal helped increase our understanding of carry and borrow operators with the invention of "Pascal's Machine Arithmetique." It was a crude adding machine that was made up of notched wheels interconnected by gears. Each wheel had ten notches, and after every complete revolution of a lower wheel the next higher wheel would move ahead one notch. (Now you know who invented the odometer). Multiplication consisted of nothing more than repeated additions, and division of nothing more than repeated subtractions.

A second scientist named Gottfreid Von Leibnitz improved on Pascal's idea by developing a way to do multiplication directly. The principle of his machine, called a Stepped Reckoner, was used in many electromechanical calculators through the late 1960's.

Of course, both Pascal's and Leibnitz's machines had to be manually operated; someone had to feed in the numbers and turn the crank for each operation.

Ending another dormant period of 200 years, Charles Babbage is credited with conceiving the first fully automatic calculating machine. The word "conceiving" is correct because metal working technology in the early 1800's had not progressed enough to enable him to build his machine. The design for what he called the Analytical Engine had to sit patiently for many years until a working model was actually constructed.

The next major milestone in the development of computers was the invention of the vacuum tube. Simultaneous with research in the area of communications, experimentation was begun to replace the mechanically operated gears and wheels with electrical signals. Development was done on both analog and digital computers. In the early states of the art of electronic technology, analogy designs were more easily understood and definable than were digital designs. Analog is a directly measurable entity which can be voltage levels, shaft positions or number of rotations. Digital signals on the other hand are not read directly. They must be encoded and decoded. In other words, they must be changed from our language to machine language and back. Consequently, analog designs were far more prevalent in the early years than digital.

As much as necessity is the mother of invention, war is the mother of necessity. World War II did much to accelerate computer development. Analog computer designs of all sorts were produced at a frenzied pace. Analog computers took such a firm foothold in that stage of technology that it took years before digital concepts were able to attain their rightful place in the world. None the less, it was inevitable. Analog computers just couldn't maintain the accuracy and consistency that digital computers could. Finally, in 1958, the last large scale fully analog bombing and navagational computer system was installed in the last B-52 Stratofortress. Since that time, the Air Force has been consciously attempting to incorporate digital computers and signal processors into aircraft systems whenever and wherever possible.

The development of digital computers made steady progress during World War II. The biggest problem with digital concepts was that their massive size, weight and power consumption made them immobile. Near the end of the war, the University of Pennsylvania, finished constructing ENIAC, the world's first large scale digital computer. ENIAC contained 18,000 vacuum tubes, weighed more than 30 tons and consumed 130,000 watts of power. With a clock rate of 5 KHz, its access time was an incredibly slow 200 micro-seconds. Today, the Radio Shack vest pocket has more computing power than ENIAC did.

In the early 1950's, the use of the newly discovered transistor reduced the size and power requirements of the computer. It was the invention of the transistor that really put computers into widespread use. Even then, however, they were very expensive nad only affordable by large companies.

Two companies were simultaneously developing a technique that was destined to alter the course of the world. Texas Instruments was the first of the two to market a product using this technique. The product was renamed from "Flying Wires" as its creator called it to "Monolithic Integrated Circuit". TI tried, to establish first inventor's patent right's, but the second company, Fairchild Semiconductor, took the case to court. They established that although TI was first to market a product using the IC concept, Fairchild was also experimenting with the idea just as long. Fairchild won. Integrated circuit technology was now available for Fairchild or anyone else to exploit pretty much as they pleased.

Computer technology shifted into high gear. Throughout the 1960's companies began making register oriented integrated circuits that were used to make calculators. The types and sizes of digital IC's rapidly proliferated. IC design became increasingly complex.

CHESS PLAYERS! Chess & Amateur Radio International - CARI - is for you. CARI has one purpose, to make chess playing by ham radio readily available to anyone, anytime. For details write CARI, P.O. Box 682, Cologne, N.J. 08213.

OK DX

Next meeting of OK DX Association will be held Monday, March 7, 1983 at the Waterhole Restaurant, 3333 Northwest Expressway (across from Baptist Medical Center), Oklahoma C ity. The first folks usually show up around 6:00 - 6:30 PM so come early and stay as late as you wish. Our meetings are very informal and everyone interested in HF DX'ing is welcome to join us.

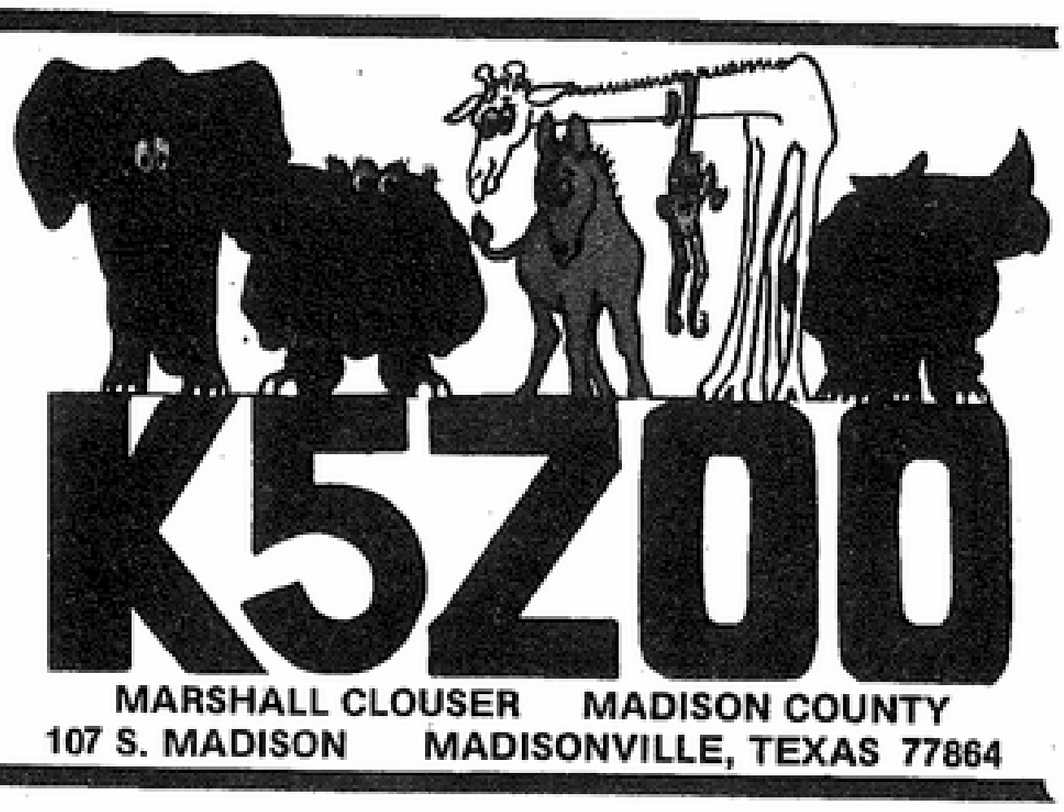
On the bands

Heard Island- VK0JS finally made it on 6 February and was exected to depart around 22 February. Jim said he is working wherever there was propagation, because "there is nothing else to do down here!" The VK0CW and VK0HI operation will cease around March 1, 1983. Hopefully everyone had a shot at one or both of these Heard Island stations; they may be the last operations from there for a decade.

Trindade- Look for PY0TA starting around 22 February, 1983. He should be on the air in time for both weekends of the A.R.R.L. International DX Contest and apparently will be operating for two months. The operator is PY1RR-- very capable CW and SSB.

China- BY8AA is reported to be heard daily around 0100 UTC at or near 14.050 Mhz, moving up or down after each QSO. I only hear U.S. stations calling, but have not heard the BY signal in many weeks. If somebody out there hears BY8AA, please call me! HI.

Competition- Don't overlook the A.R.R.L International DX Contest starting 0000 UTC on March 5, 1983. (Friday evening of March 4 Local) The CQ Worldwide and ARRL Tests are usually sure-fire weekends to add a few countries to your DXCC total.



This month's QSL of the month is from a stateside ham who deserves a note for the creativity and humor displayed in his confirmation. Everyone will remember getting a QSL from K5ZOO! Next month, we hope to have a QSL from TT8BC...Boy, do I!

Hope to hear you on the bands. De AD1S.

The South Canadian Amateur Radio Society

SCARS FEBRUARY MEETING,.....

SCARS members enjoyed a good turnout for the February meeting at the Red Cross building in Norman. The group heard a report on repeater progress which included the facts that the new crystals for the repeater are being ordered and that an anonymous doner has come forward to pledge the balance of the money needed to pay off the repeater price. Since the new repeater has the capability of an autopatch, WA5MLT was asked to make a study of the monthly costs of a phone line for this purpose.

In other happenings, it was decided that in light of the fact that the present repeater is working much better (not perfectly, but much better) due to the technical skills of W5MCN and KU5B, that a regular "rap session" will be held on Tuesday nights starting about 7:30 p.m. The W5OU/rpt machine on 147.66/06 will be used for this event. The purpose of the get together, other than the obvious way for all of us to get to chat with one another, is to encourage use of the repeater. There will be no net control, and the format will be an informal roundtable. Also, just because Tuesday is the regular night for this sort of activity, there is no reason that we can't do this on any (or every) night of the week. Its sort of discouraging to listen to the repeater frequency for hours on end and hear nothing, so lets get out there every day and press those mic buttons! What do ya say?

Also, on a personal note, I would sure appreciate some input from club members. I need some personal notes (i.e. new gear, trips, etc.) to liven up these columns. Even a want ad now and then would help a great deal.

See you on the repeater.....

-wa5rpp-

The February monthly meeting of the Bicentennial Amateur Radio Club was called to order by our President Jim N5BFD at 7:30.

The secretary was out of town, the Bahamas I think,so the reading of the minutes was dispenced with.

Nobody knows what happened to ourtreasure. Rumor has it that he was seen playing Blackjack in Las Vagas . Maybe he is on a fund raiser of his own. If he is luckyit will make this months meeting worth coming to even if the dancing girls don't make it.

Dick WB5TMW reported last month that some surplus equipment was available if the club could find a place to store it. A place was found. We now have ten racks of Linhart Multiplex equipment in working condition. These racks are loaded with power supplies, inverters, and all kind of electronic gadgets. This fine merchandise is for sale, all proceeds will go to the club for equipment or parties I mean club improvments.

Don AE5N had the proto type of the new controller board. The technical committee has been hard at work in the design and now the manufacture of a new board for the control and operation of our repeater. With continued progress and sucess we will be hearing touch tones on our repeater again!

The 76'ers as a club is responsible for the technical programs at Ham Holiday 83. We are getting off to a late start but much progress was made and we should be able to make a rough draft of a schedule at our next meeting.

Speaking of programs, our club program directo has been run out of town. Tom K5GE has taken a job down South where we raise our football players. The jop is open any volunteers will be given immediate appointment.

Ted Wd5JNT

The Feburary Wheatstraw Club meeting was off to a good start Sunday, Feb.13 at 2:30 as per usual. However the location was in El Reno instead of Okarche due to schedule difficulty. There were about 36 members present. Art W1GOM the new SECTION MANAGER gave a short talk, and there was a discussion on jackets. Yes. Ray did remember to bring the sample this time. I do not quite understand why Joe moved to table the matter just when things were getting interesting. Perhaps we can make a decision next month in time to get them so we can use them in June or August when we really need them the most.

Ralph WA5PFK, has been keeping record of every one who checks into the wed nite net. He had some interesting figures.

	1981	1982
members checking in during year	37	38
checkins they accounted for	730	1148

a healthy increase of 64% or 418 checkins

non-members who checked in	28	42
checkins they accounted for	70	106

This looks like a nice increase of activity for the Wheatstraw net, both by members and our friends who check in. Lets keep it up.

Ray AB5Z is the new Activities Manager. Since he is as surprised at this as any of the rest of us would be, he says we will have to wait and see what the first activity will be. We hope you have some good ideas Ray.

For the program, or entertainment part of the meeting, Perry was going to show a few tricks. However he forgot some of the stuff he needed. Tom KA5FUU didn t have a $10 bill but the $100 one would work. However when Perry finished, it wasnt a $100 bill anymore. . TOM is still trying to figure out what happened. Perry where is the other $99?

Next meeting will be at Watonga State Bank in the Community Room. See you there the 2nd Sunday of March. Lets hear YOU on the Wed. nite net too 8:30 PM 01 - 61 repeater

George K5GGL

ALTUS AREA AMATEUR RADIO ASSOCIATION

On 10 February 1983, members and guests of the Altus Ham Club got together for nostalgic reasons, it seems. Unfortunately, I missed this meeting, however, the notes that were taken by Deanna (thank you), indicate the meeting started with a discussion on electrical noise and the problems encountered with it. From there it took a short turn to computers and then the time machine took it from there to the golden days of spark gap radios. Spark gap radios would have been ideal, but their frequency couldn't be controlled too well as the crystal oscillator hadn't been invented yet. I bet I hear about this next meeting. Seriously, Les, Shorty, and Oliver presented an interesting discussion on their early days of radio and the various techniques used to get their rigs operational and keep them going. Thanks for the time trip, guys. I can remember when I was at the young age of six and my first receiver used a galena crystal and a catshair whisker. It worked quite well, but I couldn't carry it around with me. You should have been around the Saturday night when I decided to add several stages of amplification by plugging it in to a wall outlet. The theory was good, but the practical application failed. I did learn about fuses though...

I apologize for the wrong date for the weather watch meeting. It changed, just like our weather. It will now be held on Monday, March 7, at 1930hrs, in the Altus Municipal Auditorium, 201 E. Commerce. Mr. Neil Marchbanks from the National Weather Service, in Oklahoma City, will be the Master of Ceremonies. It should be a most interesting and professional presentation. I think there is lots of free parking, but on the other hand, this is Altus and I can't guarantee anything.

Another note from the minutes said Dwight is gone to school. Some of our other members are also going to school, like Phil Hunsberger K9PNT. Just goes to show you, it's never too late. Keep up the good grades.

The meeting closed at an undisclosed time and everyone enjoyed refreshments brought by Deanna. Thank you Deanna, everyone was most appreciative.

The following persons attended and totaled 17:

Deanna McEndree WB5UMH	Paul McEndree WD5BBO
Rosa Willsey WB5UEB	H.J. Shorty Moore K7BSY
Oliver G. Meeks WA5OGC	Todd Porter KA5NKZ
Jack Wilson KA5KPS	Ida Ruth Meeks(Avid Fan)
Udee Wilson (Avid Fan)	Les Brown W5UVX
Ralph Gilmer WD5BBV	Mary E. Gilmer(Avid Fan)
Gary Alexander KA5MPK	Chuck Nichols WD5BBN
Robert Turner KA5NOG	Paul Turner KA5NWE

Dennis Eugene Ratzlaff KA5KVU... Thank you for coming. Hope to see more of you next month.

Greetings to Herb Moss N5FQR, Mangum, Okla. I'm sorry, but I don't know if you are a new ham or if you are new to Mangum, but we're glad to know you.

Paul and Deanna McEndree, Dwight Dennis, and Dennis Ratzlaff attended this years weather watch seminar in Oklahoma City on February 15. Sounds like they had lots of fun... wandered through some junk yards, surplus lots, and got to be on television. That pretty well rounds out the festivities that have taken place this month. If I missed any entries, please turn them into myself or Gary Alexander.

Anyone wishing to contact Delayne Randolph, should now call NE5A... on the lower part of 20 mtrs.

Until next month... 73's Bill KA6RTX

Yes, that's really a six, got it in "JA" land.

LET THE TURKEYS STOP GOBBLING
An Editorial by Roy Tucker, N6TK

Two-meter repeaters, including .435. certainly have had trouble with the "hole in their marble sack" crowd. As small as this group is it can make a shambles out of ham radio if you let them. But do these mental midgets ever grow up. Yes they do, but sometimes the absolutely straight operators don't help them shed their bad habits.

Once a looney gets a reputation as a jammer, dirty mouth, insulter, etc. this reputation is hard to live down. By jumping from a repeater largely inhabited by loonies to a normal one, their reputation follows. But here is the problem, some of these animals may have decided to progress beyond their 13 year-old maturity, and yet the decent operators refuse to accept this. Some absolutely straight types will suddenly lower themselves to the level of the turkey when a turkey (possibly a turket under reform) shows up. Without any provocation, except knowledge of the newcomer's past, suddenly the decent operator starts up all types of uncomplementary conversation about the new arrival who is told in no uncertain terms he is clearly not welcome. A decent greeting to the same person often results in a reply in kind, not withstanding past disruptive behavior.

Failure to allow a person with a bad past to reform is to suggest that the straights really don't care about harassing behavior as long as they are the ones doing it. This certainly can ruin the moral argument about who and what is in the wrong.

Many of the crazies on repeaters are young people who initially get a real thrill in suddenly being able to start fights where the other person can't fight back, play the role of bully safely, cuss away, and do all kinds of other disruptive things which give them recognition. But after a few years it begins to wear thin. They listen to the decent operations and begin to reconsider. Eventually they mature beyond their 13 year-old emotional level and try to associate with hams that are not so retarded.

Give them a chance! Don't start a squirting contest with a skunk. The next tima an idiot in reputation shows up on .435, or on any repeater with a decent record, let them start to act up before drawing adverse judgement. If they act decent, act decent in return. Who knows, perhaps the turkey? wants to stop gobbling, and our example attracted him to a place where it can be done.

Art Roberts, WIGOM
SECTION MANAGER

Greetings to the OK Section! I think the first thing to be said, should be a sincere thank you to Ray Miller, W5REC. Ray has done a tremendous job handling the sections affairs the past eight months. The work that was put into getting the section ready for the new field organization, you would have to see to believe. Ray, thank you from all of us.

The official transfer of the Section Managers office from Enid to Oklahoma City was accomplished on Friday, February 11. Since then the midnight oil has been burning.

For those not familiar with the changes in the ARRL field organization, there several changes. One is to have eight section level appointments, rather than two. Along with this is an increase in the programs handled at the section level, rather than at HQ. This will generate increased participation in amateur affairs by local amateurs.

The leadership positions and appointments made to date are as follows:

W5ZTN	Section Emergency Coordinator(SEC)
KV5X	Section Traffic Manager(STM)
KB5EK	Official Observer/Radio-Frequency-Interference Coordinator(OO/RFI)
-----	Affiliated Club Coordinator(ACC)
-----	Public Information Officer(PIO)
-----	State Government Liaison(SGL)
W5QMJ	Technical Coordinator(TC)
W5AS	Bulletin Manager(BM)

These gentlemen will make the appointments that are in their area of responsibility. More on the changes in up coming months.

New Assistant Directors of the West Gulf Division (OK Section) were appointed by Ray Wangler, W5EDZ, West Gulf Director.

WA5KBJ	District 1, NE
WA5OUV	" 2, NW
AD1S	" 3, Central
W5CCV	" 4, SW
W5BLW	" 5, SE
W5REC	Director at Large

OK SECTION NET REPORT FOR JANUARY 1983:

NET	SESSIONS	QNI	QTC	WEATHER
EATWN	31	247	0	0
OPON	21	391	55	0
OLZ	31	191	56	0
ONON	31	454	129	0
OPEN	5	276	10	0
OTWN	25	481	391	373
NWOSN	12	192	10	0
STN	26	598	83	0
QCWA #63	5	187	16	0

NEED: External mike for older model Wilson T-1402SM handi-talkie. Call 321-1061 and I will pick up. Charlie, WB5UUX.

Salem

FCC PROPOSES NO MUSS, NO FUSS CODE FREE LICENSE FOR AMATEUR SERVICE!!

(_.__. ___ __ -.. . ..__. .__. . .)

Well, it had to happen. There have been rumblings within the FCC for quite some time about the issue of a "codeless" amateur operator's license. It started almost 10 years ago on December 4, 1974 with Docket 20282 that dealt comprehensively with the Amateur Radio Service Rules concerning operator classes, privileges and requirements. The Docket quoted a survey from 1971 which stated that there "may be as many nonlicensees interested in amateur radio activities, if not more, than there are persons already licensed in the Amateur Radio Service. The most often mentioned reason for not obtaining an amateur license is the telegraphy requirement. . ."

In 1978, the Commission issued a Notice of Inquiry relating to the administration of Morse code exams to handicapped applicants for amateur operators licenses. One of the alternatives was the creation of a class of licenses for handicapped applicants which would be code free. Later, in 1979, in a Third Report and Order in Docket 20282, the Commission reported that they had decided to take no action at that time on a license having no telegraphy privileges or requirements, but "we firmly believe in the principle . . . that in any licensing system there should be a logical relationship between the qualification requirements and the operator privileges authorized at each license class level. We feel that the (codeless) Communicator Class as proposed, was in keeping with this principle. . . . We hope to revisit this matter later . . . in a new rulemaking proceeding."

Well, they did. In PR Docket No. 83-28 (FCC 83-23) the Commission has done just that. They have proposed an amendment to the Amateur Radio Service Rules "to establish a class of operator license which would not require an applicant to first demonstrate proficiency in the International Morse Code ." It has been a long time coming and it may very well be one of the most controversial Dockets in recent history certainly expected to stir up a brouhaha (haha ?) at least as much as the famous "incentive licensing" of the 1960's. The thing about this is that there may not be anything that any of us can do. W5YI reported that all of the Commissioners seem to be in favor of the codeless license (July 15, 1982) and that he has been unable to find anyone within the Commission who didn't feel this way (February 1, 1983). Small wonder, few people, especially in this type of political setting would make may points opposing the boss commissioner. At least, it's not like they did not give us any warning. I mean since 1974, the hints have been increasingly stronger from the Commission that we better watch out. We can hardly claim surprise. So, for better or for worse, there is a good chance that there will be a code free license in the near, if not the immediate future. And I mean near future. The FCC has ordered Comments on the NPRM due by April 29, 1983 (Wouldn't you know it, right during Dayton) and replies to those comments due by May 31, 1983. This is a fairly short fuse as Rulemaking goes.

So what is the proposal? The Commissioners issued the Notice of Proposed Rulemaking on January 20, 1983. Some people got copies early, like W5YI and others. Ol' Fred broke the first story that I saw. The Federal Register didn't get around to publishing the NPRM until February 3, 1983, about two weeks after the FCC's action and the normal surface mail didn't bring the February 3rd issue to my local library until about another week and a half had passed. Even the normal delivery of the Federal Register puts everyone interested at least a month behind the Commission's action. I just scrounged a copy a couple of days ago.

This proposal is not for a boxtop license. There will be some maintenance of rigor in the examination, but the code will not be part of the requirement. And what are they looking for ? Well, the answer might very well be explained in the Introduction text:

> 2. The Commission is proposing to establish an amateur radio operator license class which an individual may obtain without first demonstrating a proficiency in the international Morse code. We are doing this in the belief that there are intelligent, disciplined persons who can make a valuable contribution to the Amateur Radio Service without such a proficiency. These persons may include, but are not limited to, many of our nation's younger, school-aged individuals whose primary interest lies in the burgeoning field of computer technology or individuals with a physical handicap which prevents them from being able to successfully complete a Morse code examination. The license class we propose to establish would be an "entry" type license class which would provide to these individuals the same introduction to amateur radio that the current Novice class license provides. However, instead of requiring a demonstration of proficiency in the Morse code, the proposed license class would require additional testing, above that required of a Novice class license applicant, in the areas of radio theory, operation and practice. In this way, we believe that individuals can prove in an alternative fashion that they have the ability and discipline to make a serious contribution to the Amateur Radio Service.
>
> Federal Register, 2/3/83
> Page 4856

So, the Commission is looking for a few good men or women. People of intelligence and discipline who can do more for amateur radio before 9 a. m. than most people do all day. I suggest that they put up recruiting posters in all the Army recruiting stations. Strange, I was alway given to believe that the code was a form of discipline also. It is just not the discipline that the Commission is looking for. Actually, there is evidence to support the fact or "belief" that there are intelligent, disciplined persons who can make a contribution to the Amateur Service without a telegraphy proficiency and it comes from many people already within the Amateur Service already. I mean, if current CW ability was mandatory to maintain a license, there would be a lot of people whose operating privileges would be in jepordy right now. Many people can't copy a 5 word per minute i. d. right now, yet some of them form some of our better "radio" citizens. There is probably nothing wrong with expanding that group.

This license is proposed as an "entry" type license, yet if this proposal is improperly managed, it will not be only an entry type license, but a terminal license also. After all, look at the groups they intend to cater to. Computer types, handicapped, and persons primarily interested in communications may have no incentive to advance beyond the VHF/UHF bands because of the detestibility of the code. There is no secret that VHF/UHF FM operation can be very desirable to these types because of the ease of operation and convenience it offers. The temptation may very well be to remain an Experimenter all your life. With the exception of the young person who truly would view the license as only a first step, the point of entry may also be the point of stoppage. For certain kinds of individuals that may very well be all right, for others, they will chose to advance.

Finally, the Commission chooses to burden the applicant with an additional test so that the operator can prove in an "alternative" fashinn that they have the ability and discipline to make a serious contribution to amateur radio. Although this is a noteworthy principle, the failure of the Commission's licensing program gives chase to this lie. How much discipline is it going to take to memorize answers or even the answer letter sequence out of a "Smash" Book. Get a book, get a ticket. It can be that simple. And loud boorish folks who print those books can only have a larger audience to cater or pander those classic "cheat sheets." Now, additional testing requirements should be imposed, but they will be no good unless meaningful reform occurrs within the testing program itself. By this, the tests should begin to make a genuine effort to measure true electrical knowledge, not just palm off the cleverness of the exam writer. By golly, if we want these people to be technically competent, then lets test them in a way that makes them prove it.

What kind of code free licenses is the Commission proposing? Well, the answer is rather succinct:

> 8. The Commission is proposing to establish one of two kinds of codeless operator license class. The first kind would be created by eliminating the five-word-per-minute Morse code examination element from the existing Technician class operator licensing requirements. The operator license to be issued would still be called the "Technician class" license and the privileges would continue to include all authorized amateur privileges above 50 MHz. However, the license would convey the Novice class privileges (Morse telegraphy in portions of certain HF bands)—which are authorized to current Technician class licensees—only after the license holder had successfully completed the additional examination element 1(A) (beginner's code test at five words per minute). The second form that such a license could take would be one similar to the Canadian Digital Amateur Class Certificate. We propose to call this license the "Experimenter class" license, since, as will be explained later, this would more accurately reflect the privileges to be conveyed.
>
> Federal Register, 2/3/83
> Page 4856-7

The two forms of licenses are essentially a Technician as it exists today with no novice privileges in the HF bands until after the code proficiency is passed or

an Experimenter's Class similiar to the Digital Class Amateur License held by certain Canadians. So the FCC giveth and the FCC taketh away. The Technician Class up until a couple of years ago had no HF CW privileges. Under the new "Entry" class license, they no longer will. Does this mean that they will be able to operate CW in the . VHF/UHF Bands? I dunno. That is left for the comments.

If the Commission elects to go the CW-less Technician route, they suggest that they would still be required to undergo Element 2 (Basic law comprising rules and regulations essential to the beginner's operation, including sufficient elementary radio theory for the understanding of those rules) and Element 3 (general amateur practice and regulations involving radio operation and apparatus and provisions of treaties, statutes, and rules affecting amateur stations and operations). Since Element 2 and 3 are the same as the General Class, the FCC is requiring the Technician class licensee to meet all of the requirements of the General class licensee, save for the examination in Morse code. The Commission considers that under this circumstance, the individual would have demonstrated that degree of discipline appropriate to amateur radio and would consequently make a worthy contribution to Amateur Radio.

Technicians would continue to operate on all frequencies above 50 Mhz now currently available to Technicians. They also propose that the privileges include all emission modes currently authorized to amateurs on those frequency bands. Now this is an anamoly. Here we would not allow CW privileges below 30 Mhz, yet they would have those same CW privileges above 50 Mhz. A sort-of learn while you earn.

Actually, this is not a bad idea. CW signals that might be heard on the UHF/VHF Bands would probably not be any worse than some of the fists that I have heard that inhabit the 40 meter band. At least the operator would not have to face the embarrassment of knowing that his signals are heard over a majority of the U.S. The Commission stated, "We believe, for example, that persons whose primary interest lies in the field of computers will take advantage of the emission modes used for radioteleprinter and computer communications. In this way, they could discover more about radio communications through the converging technologies of amateur radio and personal computers. They would then have an opportunity to go on to learn about other modes such as facsimile, television, and the Morse code in addition to the common voice modes.

There is a problem Jack. It won't happen for any but a few people. The FCC is not really being intellectually honest with itself here. This encouragement will cover probably less than 10% or even less or these potential amateurs lurking outside the amateur service.

If the Commission opts to go for the license modelled after the Canadian code free license, then the testing procedures will change just a iittle bit. The Canadian Digital Class license includes an examination in radio regulations, radio theory and digital techniques. In essense, in Canada, the Digital applicant must pass an exam equivalent to the Advanced Class licensee. The FCC proposed to create a new examination element 5 which would be the sole examination required of the license applicant. This exam must test an applicant's knowledge of radio regulations and theory. The level of this examination is something that needs to be addressed in the comments and the FCC suggests that it can be at or between the levels required for any of the current five classes.

If you are to continue the model of the Canadian Digital license examination, then the FCC has also proposed to examine the applicant in Digital techniques. Since the Technician Class and Amateur Extra class are tested in these fields, the FCC suggests that they might take certain of these elements and add them to the Experimenter's test.

In Canada, the Digital Amateur class license is permitted to operate pulse modes above 144 Mhz, something not permitted to the two other Canadian amateur operator classes. In the U.S. all classes of licenses are authorized full amateur privileges above 50 Mhz. So for the Experimenter, the Commission is proposing all amateur frequencies and modes above 144 Mhz. Six meters is apparently excluded to make the proposal consistent with the Canadian license. However, they would consider it if the comments swing that way.

The problem with both of these suggestions is as I have previously suggested and that is that as long as the test questions are freely circulated along with their answers, there will never be any meaningful reform. What do I mean be meaningful reform? One suggestion might be to increase the number of questions for each amateur element including the new element 5 to a pool of over 1000 questions much like the FAA uses over 700 questions for certain classes of licenses. Prepare several different versions of the test with the answers in

different positions so that memory of the material and the correct answer would be difficult if not impossible. Then administer 50 questions selected at random and not in particular groups. The idea is this. You could cram a lot of theory and regulations into 1000 questions. In fact, it would be safe to say that any person who knew the answer to these 1000 questions probably knows enough radio theory and regulations to properly operate an amateur station. This technique as I indicated has been used by the FAA. One of the results is that you could virtually publish the test questions yourself and as a side benefit putting ol' you know who out of business. The FCC has invited this type of entrepeneur by only having a couple of versions of each exam and goofy questions.

There were two models the Commission cited in their NPRM of current code free amateur licenses, Canada and Japan:

> 7. Today, we note that internationally there are at least two countries with significant amateur radio operator populations which provide for a class of operator license which does not require a proficiency in the Morse code: Japan and Canada. In Japan, where the difference in privileges between operator classes is for the most part determined by authorized maximum operating power, license classes are provided for low power operation in the HF as well as VHF bands * without a Morse code examination requirement. In Canada, operators holding a Digital Amateur Class Certificate may use virtually all emission types throughout the Canadian amateur frequency bands above 144 MHz. The examination requirements for the Digital Amateur Class Certificate include a test in radio regulations, a test in radio theory and operation of modern amateur radio transmitters and receivers, and a rigorous examination in the theory of communications, computing, and analog and digital transmissions, but no examination in the International Morse code. For each of these cases, we are unaware of any difficulty that has been experienced because of the creation of such license classes.
>
> Federal Register, 2/3/83
> Page 485f

What is interesting is that while the Canadian License has an odvious need or appeal (The Digital License can be held concurrently with another license), the Japanese proposal licenses both HF as well as VHF/UHF frequencies. Although the Commission doesn't not that the Japanese proposal is in contravention of International treaties, they do discuss in Para. 9 the requirement for Morse Code proficiency on frequencies below 30 Mhz. (The 1959 Administrative Radio Conference made the requirement for frequencies below 144 Mhz, the 1979 WARC changed the specification to 30 Mhz. Actually, the Japanese may not be in strict violation of the Treaty in that a footnote to the Frequency table provided that any country may deviate from the ITU Rules provided that no interference is caused to Nations operating according to the International agreement and apparently no country has apparently objected to Japan's HF no-code license.

In apparent lip service, the Commission in Para. 9 still claims the benefit of code proficiency below 30 Mhz, "The Commission believes that requirements for a knowledge of the international Morse Code still serve an important purpose for operation on the frequencies below 30 Mhz." They point out the treaty requirements for Morse Code proficiency. But their weakest argument of all is made in Para 19 which states:

> Beyond station identification and use in certain weak signal communications modes, we note that the Morse code is seldom used above 50 Mhz, even though all amateur operators are currently required to demonstrate their proficiency in it prior to licensing. We then ask why the Federal Governme nt should continue to require of operators a skill which may have less utility than other skills in these bands for which the licensee would be granted to operate. We do not, for example, require applicants to demon strate proficiency with a typewrite even though radioteleprinting may be the most efficient mode for certain "traffic" handling. We believe that a more important qualification for an operator license is an individual's ability to understand the Commission's regulations and the radio station for which he/she is responsible. Other than this, we would leave to the individual the decision as to whether learning the Morse Code would benefit his/her endeavors in amateur radio.
>
> Federal Register 2/3/83
> Page 4858-9

Now this is insane. The argument of leaving to each individual their own decision as to whether or not take up the code is dangerous. If you want to justify code free licenses, do well to use an argument that makes sense. Don't say that because a large number of amateur radio operators choose to make F3 the dominant communications modes on VHF/UHF that CW is not relevant. As the quotation says, every repeater on the VHF/UHF probably uses a CW ID of some sorts and we might expect our Experimenters to eventually learn the code. If we carry the argument advanced by the Commission to its logical extension, then we should say the FCC might consider waiving the CW requirement below 30 Mhz for those who promise they will only work phone and no CW. Maybe we might also want to waive the CW requirement for those who only operate RTTY on the HF bands.

We cannot make the rules based upon "what happens naturally" on the radio bands. If that were the case, then it is time to legalize all the illegal CB operation below the 10 meter band. Or even to suspend the license requirement. After all, if those few people between the 11 and 10 meter band are not licensed, then why should the Commission try to license. After all, the use of a license requirement really has no relationship to the exercise of the "privileges" taken by these people in that band segment. These people have shown that they can operate in some sort of "regular" fashion with nothing more controlling them than the "law of the jungle." Might as well make it code free and license free.

The point is that the Commission has tried to make a new argument where none exists. It is circular logic to say that because only voice communications predominants on certain band segments that we suspend consideration of all qualifications normally required for the amateur license. I think that the code free license may be inevitable, and I am not sure that it will be bad for amateur radio. However, that does not mean that we suspend all the normal rules. If you want a code free license, first establish that it can be done in a manner that will not disrupt the current amateur service. Second, will the influx of these operators have a purpose directed toward the purpose of the amateur service as provided by 97.1 of the Rules and Regulations? We operate in the public interest, convenience and necessity.

What would be the result of a code free license on the use of the bands and how will it disrupt the normal operations, if at all? Well, I think that there will be an influx of operators who previously chose not to obtain licenses because of the telegraphy requirement. There will be more than

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of)
)
Establishment of a Class of)
Amateur Operator License Not) PR Docket No. 83-28)
Requiring a Demonstration of)
Proficiency in the International)
Morse Code.)

TO: THE COMMISSION

COMMENTS OF (LIST YOUR NAME OR CLUB HERE)

Most comments have a short INTRODUCTION (who you are or your club, how many members, etc.) followed by BACKGROUND of the proposal. Your COMMENTS should follow with convincing reasons for them. The ending of your comments should contain a CONCLUSION such as . . .

"We respectfully ask the Commission to . . . (give your suggestions on the no-code issue in a very short paragraph.) "

Respectfully submitted,

Date: _____

YOUR (OR YOUR CLUB'S) NAME

_____
SIGNED: Your signature, call sign . . .
(Club office, if appropriate)

Sample FCC Comments

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later as the idea "catches" on, but I don't view a massive influx as the CB craze showed. I am, however, worried about the possibility that people will feel that they will not need a license just like the CB craze and will start buying radio and using them. If that should happen, then all the repeater control systems will get a work out. It is one thing for someone to buy a radio and start transmitting into the ether, but it is quite something else to use a repeater autopatch. I don't think that it will be a serious problem unless the public views it as a super CB. And that may also be one of the major probiems from the amateur point of view, the loss of image to the public especially if they think of us as Super CB. Well, the answer to that is that they already do. People can't tell the difference now except with the most careful public relations explanation.

I suppose that everybody has the adject fear that some of the people who occupy the band between 10 and 11 Meters will come up to VHF/UHF. I am not sure. I have heard some of these people sitting there talking to nobody in particular and just rambling on and on. These walkout from the local hospitals of the mental variety may not give up their hard earned frequencies to limit their range on VHF/UHF.

One consideration is that as long as people obtain a license by examination, the people on the band will always outnumber the new comers and there will always an opportunity to exercise peer pressure in the form of proper operating examples. As long as they don't gain on us, I believe it can be done. Contrary to some sociological theories, order is preferable to disorder. Even the most obnoxious cretin who spends time jamming and bootlegging begins to realize the necessity for discipline within the amateur service when he wants to use the airwaves and some other cretin is jamming him. Perspectives can change, but there will be a lot of growing pains in between.

I have reproduced a proposed comment form above. This particular one came from W5YI and I have made up others in the past. It is not exactly necessary to follow this form. A simple letter will do, just put the Docket Number on it. If you want each Commissioner to have his very own copy, file an original and eleven. If this is not necessary, then formal comment participation requires filing an original and five copies. Informal comments require the submission of only one copy. They claim that all comments, both formal and informal will be considered.

What types of argument to make? Strong emotional appeals will not win the day. Address the issues:

1. Should fully qualified, technically competent individuals be allowed to participate in the amateur radio hobby without Morse Code knowledge.
2. What potential effect witl a population growth have on the hobby and the spectrum?
3. Should new licensees be given all amateur privileges or should specific bands be approved.?
4. How will the new class meet the purposes of Part 97.1 of the Rules and Regulations.
5. Which method is preferable, code free Technician or new Experimenter's Class license.

What will be the outcome? There will, more than likely be a new class of code free license. I personally feel that the lifting of the code restriction is not a beneficial aspect. Morse Code is the most efficient mode of communications in terms of simplicity and effectiveness. It is, like scotch, an acquired taste. I hated it when I started or found it at best, a nuisance. Strangely, though, when I am not talking on phone to friends on regular skeds, I spend my time on CW. So, just like I plan to get a RTTY setup or SSTV, it is possible that I might have learned the code anyway, just much later in my amateur career. People interested in building will probably not build a SSB transmitter the first time around, more like a CW transmitter and they will have to learn to use it. The question is will these people be able to enjoy amateur radio while they acquire the taste for CW? I have heard numerous people blast the code as being irrelevant yet a couple of them now have Amateur Extra Class tickets. The fact is that with the exception of a handicapped individual, the code is not that difficult a requirement. It can be learned. The real problem is that those people who "can't" learn the code really don't want to or don't have the time. I am also concerned with the new license as an "entry" level. Perhaps some incentive should be built in to give new applicants a reason to upgrade to a CW ticket by limiting some of the phone privileges on VHF/UHF in exchange for the CW proficiency. In the face of the new enforcement regulations, enforcement should not be a problem. Anyway, more later. Plan on filing your comments now!

Micheal Salem N5MS

HAM HAPPENINGS

REFER TO CLUB SECTION FOR SPECIFICS

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Great Plains MORI 1	ARDMORE 2	EDMOND Club 3	Aeronautical Center ARC 4	BEAN SUPPER PAGE 9 HELP HEAR SIRENS 9 am COCO 5
6	OK-DX ALTUS Weather Meeting 7	Okla Univ SHAWNEE 76'ers 8	9	ALTUS AREA 10	11	SCARS 12
Wheatstraw Watonga 13	SEOARC 14	AUTOPATCH 15	16	KAY County 17	18	VHF Club NEW DAY & TIME 10:00 am 19 SIRENS
20 →	ARES EDIT 21	CORA SHAWNEE 22	23	24	25	26
27	28	29	30	31	MARCH	