

K7LED RELAY



The RELAY is the official tabloid of the Mike and Key Amateur Radio Club. The Mike and Key is dedicated to the growth and betterment of Amateur Radio. We meet the third Saturday of every month at the Salvation Army Renton HQ,

720 Tolbin St., near the SE corner of the Renton Airport. The Club operates repeaters on 52.05-53.05, 146.22-146.82, and 222.52-224.12 under the call K7LED. The following nets meet on 146.82: Club Net, Wednesdays at 7:30PM; Public Service Net, Thursdays at 7PM. The Club mailing address is: PO BOX 2121, Kirkland, WA 98083. All persons interested in Amateur Radio are invited to participate in the Mike and Key Amateur Radio Club and it's activities.

Volume 20

July 1992

NUMBER 7

PRESIDENT	- Chuck Stroehner, WA7EBH	Tel:392-5303	TRUSTEE #1	- Ralph Shumacher, WX7T	Tel:232-8053
VICE-PRESIDENT	- Nils Hallstrom, WB7TJK	Tel:242-8271	TRUSTEE #2	- Carolyn Pasquire, WV7Q	Tel:862-1157
SECRETARY	- Lee Bertrand, KG7OW	Tel:897-8486	TRUSTEE #3	- Wayne Moddison, K6DOW	Tel:271-5314
TREASURER	- Jack Burrell, KB7ZS	Tel:454-3617	TRUSTEE #4	- Dean Holtan, N7NKO	Tel:242-6715
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RADIO OFFICER	- Ken Rau, K7YR	Tel:222-7711	EDITOR	- Michael Dinkelman, WA7UVJ	Tel:854-4031

Relay Editor
Michael Dinkelman
637 2nd Ave South
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NEXT BOARD MEETING

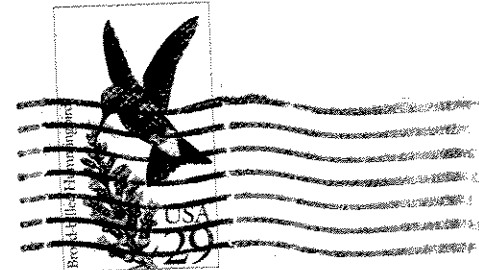
Aug 4 7:30PM
Omni Restaurant
188th So, City of SeaTac

NEXT BREAKFAST

July 18 @ 7:30AM
Riverside Inn
14060 Interurban So, Tukwila

NEXT CLUB MEETING

July 18 @ 10AM
Salvation Army Renton HQ
720 Tobin St, Renton
Doors open at 9:30
Program - Video, Last Voice from Kuwait



FIRST CLASS MAIL

K7WTG

93/01

HEDBERG, PETE
20904 NE 77th ST
REDMOND, WA. 98053



**ANNUAL PICNIC - AUG 22
SEWARD PARK**

CHECK MAILING LABEL FOR DUES EXPIRATION DATE

PRESIDENT'S CORNER

Submitted by Chuck Stroher, WA7EBH



Well the hectic pace of Field Day and the July 4th fireworks are over for this year and things seem to be settling back into the normal grind of summer.

For those of you that missed Field Day, you missed a good time, party, friends, a bent tower trailer, mosquitos, and more mosquitos, some CW boys seen on the phone sites, new wire antennas; you know all that good stuff. Murphy came in and bit a few folks on the back side and a few band chairman, but we chased him off.

Upcoming during the month of July and August are several Public Service events that need your help. If you haven't participated in Public Service events and feel out of place, come on down and help. We won't bite, but will give you information on what we do and how you can help. Besides it's a lot of fun and you get a front row seat for all the action.

The club has several committees that have been formed and need your ideas and input. Please write your ideas down and send them to the chairman, or better yet, attend one of the committee's meetings and participate.

Well enough of my ramblings for this month, just remember that this great club and hobby needs your support to keep things running. See ya all at the Seafair parades and the club meetings. --73

LET'S BE MORE AWARE

by Joyce Stroher, N7JPW

The Salvation Army Building in Renton is our new site for General Membership meetings and a very nice building it is. Are you aware that there are only 6 tables with 6 chairs each already set up and that someone has to set up additional tables and chairs for the meeting? I wasn't until the June meeting. Are you aware that someone has to stay after the meeting and remove the

appropriate number of tables and chairs and store them back in the closet? Are you aware that the entire floor of the meeting room plus the refreshment room must be completely vacuumed after the trash has been picked up and put out in the bin in the back of the building? Are you also aware that someone must clean up the coffee pot, etc.?

It was very disturbing to me to see everyone leave but a handful of the "old diehards". Maybe some of you were like me and did not realize that so much had to be done before and after the meeting. Now you know and I hope some of you will be of assistance in the future. And... the thought also occurred to me that some of you would have been helping if you had been asked. So let's lend a hand so that the set-up and take-down won't be left to just a few. I plan to ask the President (I think I just might have an in) to make an announcement at each meeting to remind everyone to consider lending a hand or two. Remember, Many hands make light work!! Thanks to Jack, KB7ZS, and Frank, KA7QHG, for working so hard on the refreshments and the meeting room.

NEW MEMBERS

by Nils Halstrom, WB7TJK

The following new members were accepted by the general club membership at the last meeting. Welcome aboard all!

Donna Winchester, N7ZAX Technician 16214 SE 130th Pl Renton, WA 98059 Tel: 228-0731	Ralph Hayden, N7VWF Technician 1836 E Hamlin St Seattle, WA 98112 Tel: 323-0680
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Roger Steyaert, K7RXV Advanced 20609 SE 271st Kent, WA 98042 Tel: 432-2714	Steve Kaney, N7MUT Advanced 5711 S 152nd Pl #124 Seattle, WA 98188 Tel: 244-4282
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FCC FORM 610 CHANGES

Submitted by Jim, K7ND

The FCC form 610 has been changed in color and content. Anyone applying for a waiver of the code requirement for health reasons MUST use the new form after August 1, 1992. This new 610 version has the doctor's certificate on the bottom of the back side.

GENERAL MEETING MINUTES**JUNE 20, 1992**

by Lee, KG7OW and Mike, WB7AYU

Meeting was called to order by Chuck at 10:00 AM. The Pledge of Allegiance was conducted followed by introduction. In attendance were 76 members and 6 visitors.

Report of Officers:

Vice President: Nils. WB7TJK introduced 6 applicants; Ralph Hayden, MD, N7VWF; Tom Snieder(absent); Donna Winchester, N7ZAY; Steven Kaney, N7MUT; Roger, Steyaert, K7RXV; N7VIQ (absent); Ellie, AA7ME. All those present were approved for membership.

Secretary: Lee, KG7OW is absent due to illness; Mike, WB7AYU replacing.

Treasurer: Jack, KB7ZS; Net worth \$31,530. Call to get the exact balance. It was moved and seconded to accept the treasurer's report.

Activities Chairman: Chuck, N7STR; Introduced today's raffle prizes and detailed the plans and goals of the raffle for this year.

Chairman of the Board: Ralph, WX7T; Discussed Board activities and ask for approval of membership to purchase an amplified podium. It was moved and second to purchase one for \$745.00. Motion carried.

Committee Reports

Public Service:

Chuck, WA7EBH and Wayne, K6DOW described the events of the Seafair activities. Renton River Days scheduled for August 8th and 9th. Need lots of help all summer long.

Long Range Planning Committee:

Rick, KF7VG; A formal report of the survey taken and output from the committee will be presented in October. Next meeting of the committee will be in 2 weeks. The goal of the committee is the heart and life of the Club 5 years or more from now.

Picnic:

Julian, KA7MCB; Date is August 22nd.

Tentatively to be held in Liberty Park in Renton (Ed Note: site changed to Seward Park). Need lots of help with cooking equipment and set-up.

Constitution and By Laws:

Ray, WA7EKH; Seeking legal help to review our present and proposed constitution changes. The committee is currently meeting monthly with proposals.

Two Meter Net Coordinator:

Frank, KA7QHG; Net has not been held while using the backup repeater. Keep listening, some attempt might be made. Repeater to be back on site next week.

Jam, N7WJB: CSCC code completion Certificates and W5YI have been and still is a logistic problem and was brought to the clubs attention by N7WJB. A short discussion followed concerning VE problems.

Break was taken and the meeting reconvened with Annual Field Day presentation by Frank, KA7QHG and Dean, N7NKO. A video tape was shown of the 1988 Field Day taken by Chuck Northcut, W7SRZ. Band Chairmans were introduced Wagon Wheel camp fees: \$5.50 per night. Barracks also available at \$3.90 per night. The Band sign up sheet were passed around and final plans were made. Still looking for a host for the Friday night get together.

With no further business the meeting was adjourned at 12:18 PM

BOARD MEETING MINUTES**JULY 7, 1992**

Submitted by Lee, KG7OW

The meeting was called to order at 7:36 PM by Chairman of the Board, Ralph, WX7T.

Present were: Ralph, WX7T; Chuck, WA7EBH; Wayne, K6DOW; Dean, N7NKO; Julian, KA7MCB; Nils, WB7TJK; Ken, K7YR; Lee, KG7OW; Mike, WA7UVJ, RELAY editor.

Absent were: Carolyn, WV7Q; Chuck, N7STR; Jack, KB7ZS.

Visitors were: Dan, N7QHC and his wife Dawn; Jim, K7ND.

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Ralph, WX7T: Held a short discussion about the order of which the meeting were conducted.

Old Business:

Ralph, WX7T: General membership approved the purchase of amplified podium. A short discussion was held concerning the duties of the Officers of the club. Lee will write a letter to Ray, WA7EKH, Chairman of the By Laws Committee to review and recommend changes in the duties of the Officers if needed.

Wayne, K6DOW: Gave a brief report on NTRN net. (This is a net conducted in the East which conducts a technical net with questions which we could link the repeater to via phone patch). Wayne will find out more details about this and report back.

Julian, KA7MCB: Picnic will be held August 22 at 11:00 AM at Seward Park on the banks of Lake Washington, near Renton.

Committee Reports:

Wayne, K6DOW, Public Service: Renton River days August 8th & 9th, help needed.

Chuck, WA7EBH: Seafair coming up. Kent parade, Parade in Redmond July 18th, Parade in Des Moines, Chinatown, University Place, Torchlight and Parade in Auburn August 22. Help is needed for all of these.

Field Day: Frank, KA7QHG: Suggested to have a critique possibly after the General meeting, similar to the one we had for the Flea Market.

President: Chuck, WA7EBH: Flea Market meeting will be held around July 20th or right after Seafair. A general discussion was held concerning the Flea Market. Also talked about the tower trailer.

Vice-President: Nils, WB7TJK: Presented 3 applicants for membership. Wayne Deviney, KB7OTS; Marion Ayers, KB7PAD; Howard C. Ayers, W1IIT. All were approved to present to the membership. Ellen Warnosky, AA7ME requested her membership be approved in her absence as she was transferred to

Florida until September. This will be presented to the membership at the next meeting.

Secretary: Lee, KG7OW: Nothing to report.

Treasurer: Jack, KB7ZS: Absent due to illness in the family.

Radio Officer: Ken, K7YR: Extremely impressed with the number of participants and especially the number of families attending Field Day. Discussed the repeater situation; power supply, problems, site for backup repeater, etc.

Trustee: Julian, KA7MCB: Read a poem to the board. Will give to Mike, WA7UVJ for publication in the RELAY.

Ralph, WX7T: A brief discussion was held on Field Day Award. Tabled until the next Board meeting.

Trustee: Dean, N7NKO: Nothing to report.

Jim, K7ND: Held a discussion on the tower trailer and towers. Suggested to start looking at buying towers for the club as the towers we are using don't belong to the club.

Relay Editor: Mike, WA7UVJ: Need articles for the RELAY.

Meeting adjourned at 9:15 PM.

RF INTERFERENCE

Submitted by Lee, KG7OW

You've probably heard me sing this song before but, let me try it one more time. Maybe some of you have experience the same thing I have and might be able to help.

My troubles started in August 1992 when we purchased a new 1991 Cutlass Cierra. Naturally I installed a two meter in this vehicle as soon as I could. Everything was fine until I started it and went on 146.82. I started having RFI so bad that it could not be squelched out. Much to my surprise, when I dialed in other frequencies the RFI disappeared.

- RFI CONTINUED -

This was really hard to believe, but returning to 146.82, the RFI resumed. I contacted the dealer, but I found out they don't know much about RFI and one employee more or less told me that this radio didn't belong in this vehicle. Can you imagine how frustrated an Amateur Radio operator can get when he is told this. I immediately ask this person; What if you had sold this vehicle to a police department? The reply was, That's a good question.

Next, Jack - N7OME, and I went to the Alinco Dealer in Tacoma, Electro-Com, and talked to Mr. Joe Jinks who is also a Ham. We ran tests with handheld radios (different name brands) and the same thing would happen. When you were monitoring 146.82 and walked by the vehicle while it was running the RFI was there and couldn't be squelched out. But when you would turn the handheld sideways so the antenna was horizontally polarized the RFI would vanish (most man made noise travels vertically). The closer you would get to the ignition module the louder it would get. Other models were tried without any success. I was using an Alinco 110. We came back home and I installed a Kenwood TR 7950 hoping it was a radio problem, but it wasn't.

I was invited to the residence of WZ7H, Earl, to trouble shoot this problem and I gladly accepted. We changed antennas, changed antenna locations, etc. but nothing helped. I went back to the dealer and again they couldn't help. I ask them to change the ignition module. but I didn't get anywhere on this idea. They directed me to a Service Company in Kent who specialized in repairing Delco instruments, but these people only take care of dash board instruments panels, nothing else.

I contacted The Federal Communication Commission in Bellevue and cried on their shoulder. I was told to document all this information and to send it to them. Supposedly it would be sent back East to another division who would contact General Motors. This I did, but so far I haven't back.

In the meantime I asked for help from the Wednesday night Net checkins. One person came back and told me he had a non-ham

friend with a car like ours and he had found this same problem accidentally when his friend had visited him. He found this out by having a handheld close by when his friend was leaving. While this was taking place, another friend, Dan, KB7HIN purchased a 1990 Chevy Truck S-10 and was having this same problem. Dan got rid of his truck.

I also contacted General Motors Customer Service and didn't get much help even though they did assure me they would check this matter out. By the way this problem only exists after the vehicle is warmed up. I'm hoping that this will reach someone, somewhere that might have experienced this problem and can help me eliminate my problem.

One idea for those shopping for a car, take a handheld radio along and run a few tests on your own. Don't make the mistake I made. Thanks for listening to my story. (Ed: Any ideas guys?)

RENTON RIVER DAYS

Looking for an event to participate in? Ted Summers is no longer able to organize an Amateur Radio Display for the Renton River Days. Maybe 2 or 3 M&K members would like to get together and put a neat display together. For information on what's required, contact WA7EBH, K6DOW, or W7JIE. They can fill you in but will not be able to participate. Sounds like a fun challenge for some Renton Hams! How 'bout it?

- FOR SALE -

Honda 400 watt gas powered generator with AC and DC outputs. 500 watt surge load. In original box with spare plug and instructions. Perfect condition - \$250.

Sony Model TC377 Stereo reel to reel tape deck with instructions, mike and 20 reels of tape (7 unopened) All for \$100.

Contact: Gib/W7JIE 226-4222

AS THE SMOKE CLEARS

Submitted by FRANK, KA7QHG

Anyone who wasn't at Ft. Flagler during June 26, 27, and 28 missed a very unique Field Day!

We had lots of people, pretty decent band conditions, and a great Friday nite social gathering with Little John out-doing himself with his chili (HOT!!). The weather was perfect all three days during the day but Saturday night thru Sunday morning we had a light-show never before duplicated by any rock group that was accompanied by torrents of rain! Hope all those tent campers in the "wagon wheel" fared ok.

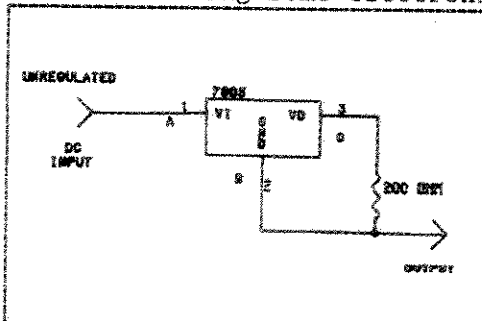
I would like to thank all the band chairmen, operating crews, the gang who came up Friday to help set up and all those people who just came up to see what Field Day is all about. It was a great turnout. The only comment I heard from the park staff was that it was a great crowd! We were also carefully observed by 3 of the parks permanent residents...A big doe and two beautiful little spring fawns that didn't seem too concerned about ham radio!

I haven't finished computing our score yet but it looks like we did pretty well. I will have some comparison figures at the July meetings. Again, thanks to all for the cooperation and effort.

TRY THIS WITH A 7805

Submitted by Bob Yerkes, K6PQJ

The arrangement below showed up while troubleshooting some electronics gear.



As you may know, the 7805 is a + 5 V D C regulator. (similar to the LM340T-5.0 -Ed.) See if you can answer

- 1) Precisely how is the 7805 being applied in the circuit shown above?
- 2) How do terminals A, B, C correlate with the unregulated voltage input, ground reference, and +5V regulated outputs on the 7805?

ANSWERS:

The chip is being applied as a small constant current source. 'A' corresponds to the unregulated DC input, 'B' corresponds to the ground reference, and 'C' corresponds to regulated output. In the circuit shown, the 7805 will maintain a regulated +5V across the 200 ohm resistor. This circuit sources $5V/200\text{ ohms} = 25\text{ milliamps}$ constant current, minus the slight current which the reference terminal 'B' sinks.

- WANTED -

Help for Seafair Parades. Looking for a lot of good ham radio operators that like to stand around looking important and talking on a radio, especially handhelds. Must be able to stand on own two feet and think on feet when needed. Work long hours for little pay.

PAYMENT: self satisfaction for a job well done and pride in helping get a parade before thousands of spectators. We are an equal opportunity employer, we accept anyone willing to help.

INTERESTED? Apply at any district parade or call Chuck WA7EBH at 392-5303 for further details. Advance registration is appreciated.

YOUR LICENSE CAME TODAY

Submitted by Cib, W7JIE

"Yippee, I finally got it! Oh Joy and great day, now what do I do."

Based on a few years in the "Ham" world, perhaps I can give you some pointers that will separate you from the newly licensed and scared souls who may not read this article. Here are some ideas that may not have been mentioned in your Ham classes.

the following questions:

- continued, next page -

CALL SIGNS - Your call is important!

No one else in the world has a call exactly like yours. Give it with honor and treat it with respect. Always give your call by voice with clarity. Don't mumble the call and don't give it in such a hurry. Be proud of it. Don't come up with funny phonetics or other smart words to make your call. Learn the I.C.A.O. phonetic alphabet and use it, always. If you use CW, always give your call cleanly and clearly so others will know who you are. Even the FCC would like to know and to screw up your call is a violation of the rules. See paragraph 97.119 to review those rules.

CW OPERATING - When calling "CQ", remember to do it briefly. Don't call "CQ" a dozen times and then add your call twice. I recommend calling "CQ" three times and your call twice. Repeat that sequence three times and then listen. In fact, I would say always listen for several minutes on your operating frequency before you ever transmit anything. The sign of a "good" operator is not to call long strings of "CQ". In all probability, the stations who hear you will get tired of the long "CQ" and move on before you finish.

MORE CQ - Another trick to remember, never send CW faster than you can receive. In fact, it's a good idea to learn to receive code about 15 wpm faster than you can send. The system operates on the basic fact that you send at the speed you wish to receive. Never buzz along at a high rate then ask the other station to slow down. It puts you in the slot as a poor operator. I might add, learn to read code in your head. Don't waste time copying it down then reading what was said. You can understand the spoken word at 150 wpm, learn code at 30-40 wpm and enjoy a contact, it's perfectly possible.

STILL CW - When using a hand key, always rest your elbow on the desk, not your arm. This way, you will use larger muscles to run the key instead of finger muscles. If you are going to be sending for any length of time, you will find this much easier. The best way to avoid becoming arm-weary is to use those arm muscles and your code will come out much cleaner.

PHONE USERS - Whether you use SSB, AM, or FM, the most important thing to remember is that you want to be understood. Just a fact of life, if they can't understand you, they can't communicate with you. One of the biggest errors is the use of the microphone. In the movies and on TV, you always see the mike held about 6 inches away from the mouth and the person talks into the face of the microphone. To use the mike right, turn the mike sideways and put your thumb in your cheek. No matter if you are using a handheld, a separate mike for the base station or what ever, always talk across the face of your mike. The reason is simple, talking into your mike as they do on TV causes your "P"'s to POP and your "S"'s to SIZZLE. It also makes adjustment of your gain control or any other audio adjustments to be subjected to the variation in voice volume because you are never in the same position. I know -- you see lots of folks talking into a mike instead of across the face of it and they have a heck of a poor sounding transmission. Just put your thumb in your cheek and talk. It easy to do and pays off with better sounding audio.

MORE PHONES - While on the subject, hold your handheld in a vertical position when talking. Cross-polarization and poor locations often lead to poor or non-existent communications from handhelds. Just because you hear the repeater good doesn't mean your signal is getting into the repeater well. You are competing with a 50 to 100 watt repeater against your 1 or 2 watt HT. It's no match.

TUNE-UP - The human ear can only detect about a 3dB change in audio level. Tuning your base station up to the absolute full one watt of output is a waste of time. Unless you can increase your output by many watts, the signal change at the far end will not be detected. So save your muscle, time, and electricity. This will lead to a longer life for the rig and as usually happens, the output signal will be cleaner. Many linear amplifiers are not very linear and get all kinds of spurious signals when tuned to the absolute one quarter watt out. T'aint worth it.

THE QSO - Finally, what to talk about. For my money, I'd like to get to know you better as a ham. I'd like to more than where you live and "PSE QSL, 73".

Why not think about some item you have done that is just bit different than ordinary; or perhaps something about your personal life that's just a tad different. Sickness, old age, doctors, operations, and all that stuff is a bore. Avoid it like a traffic ticket. Your hopes, ambitions, music interests, girl/boy friends, and recent books you've read are much more interesting. So many Hams get into the habit of name, QTH, weather, RST, and QSL via the bureau (lots of them can't spell - they call it buro) and then 73, CU agn. Get out of the rut. You'll find it spices up your contacts. If you can, keep a more descriptive log or maybe a card file with interesting subjects from your QSO's. It'll make make your next QSO with the same station more interesting. By the way, the post office in the USA uses a 2-letter system for indentifying states. But if you are talking to anyone in another country, remember they may not be acquainted with this system. I'd suggest you spell out the city and state. Who in Borneo ever heard of "SP CF" or "SEA WA"? I personally use "NEAR SEATTLE" since it is a major city known worldwide, but few folks have heard of Renton or even the community called Kennydale. If you want them to know, give them a break, it's accuracy not speed.

FINALLY - another thought, QSL cards. I collect them on a selective basis. If I want one, I make sure I send one, either direct in an envelope or via the QSO bureau. Of course, the bureau is cheaper and probably takes much longer. If I need some country or a particular station, it goes first class with return postage (if available) or International Reply Coupons (IRC's) if needed. If unsure, you might ask some of the local DXer's for information on a particular station or situation. Oh, by the way, when working any DX type band, be sure to listen for that extremely weak signal. You would be amazed at how many new amateurs I've heard miss out on a good DX contatc just because he was weaker than S9++. Always answer any QSL you receiv. If they cared enough to send you one, be kind and return the favor.

Maybe I can think of more hints for the new ham. Hang in there and enjoy the only federally licensed hobby in the country. Be smart and be considerate. Be

calm and enjoy. 73 or 88.

- FOR SALE -

- 1) A Kenwood TR7400A 2 Meter mobile transceiver.
- 2) A Kenwood TS520 HF SSB transceiver with MFJ 941 tuner.

Contact WA7EBH Chuck at 392-5303.

WE'RE BACK

Submitted by Frank, K6PQJ

Yep, that's right, the wild and crazy Wednesday nite "Almost Live" 2 meter net is back.

We're sorry about the inconvenience the absence of the repeater caused but our trusty radio officer got to the bottom of the ongoing problem which may turn out to be factory designed in. Anyway it's back up on the mountain and running in great shape!

We welcome all club members and visitors to join us on the Mike and Key 146.82 repeater every Wednesday nite at 7:30 PM. Those of you who are wrestling with the code to upgrade and get on HF radio come join us. We also have a swap and shop during the net, just list 2 items when you check in. Listen for one of the following net control ops, Rick KF7VG (Mr. Wed nite live!), Lee KG7OW, Dean N7NKO, Mike KB7JNN, and Frank KA7QHG.

Anyone interested in being a net control op please call me at 243-9232, hope to CU all on Wednesday nite. 73

JULY PROGRAM

The program for July will be the video "Last Voice from Kuwait" presented by Harry Lewis. This film, in a documentary format, deals with how amateur radio was used in getting information out of Kuwait during the invasion of that country a two years ago.

BACKUP POWER CIRCUIT

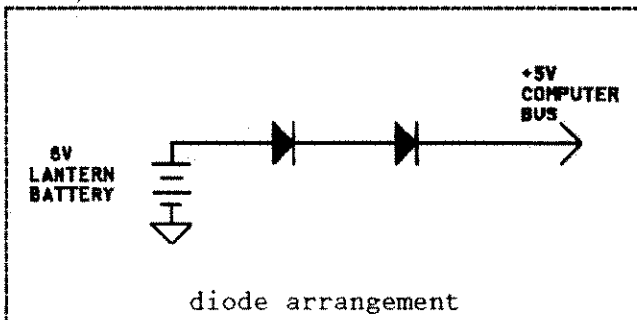
Submitted by Bob Yerkes, K6PQJ

This design was for a cargo loading computer on a chemical tanker. There is no disk or backup capability and a power glitch would require six hours worth of data re-entry by the chief mate,

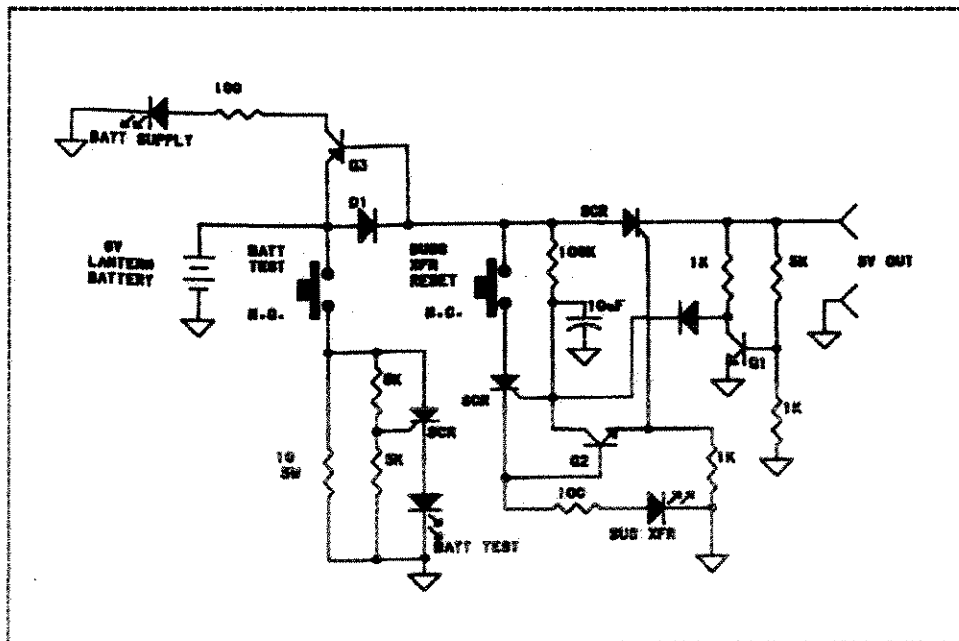
who has better things to do with his time. Possibly this design may be useful for some homebrew project where volatile memories are used and no backup supply is available.

The TTL bus for the loading computer draws 800ma. Even though the computer is on the ships emergency circuit (automatic diesel generator), it was desired to provide up to one hour of memory retention in case of power failure. The only battery readily available with this capability on board was a 6V one amp hour lantern battery. The battery was initially connected to the 5 volt bus using two selection diodes, as shown below.

Even with the diode arrangement, there was a slight continuous current drain on the battery of a few milliamps. A means of reducing battery current drain to zero was needed during normal operation. It was also desirable to test the battery condition periodically in a easy manner. A bus transfer alarm was needed, as well as a "battery supplying power" indicator.



The above requirements led to the development of the circuit shown below. The 5 volts supplied by the computer keeps Q1 forward biased and the Q1 collector near ground potential. When the computer bus drops to about 4.1 volts, Q1 reverse biases and the Q1 collector rises momentarily to the (rapid diminishing) computer bus voltage. This is sufficient to trigger SCR1, which activates the bus transfer alarm (a red LED) and forward biases Q2. Q2 provides trigger voltage to SCR2 which brings the battery into play and quickly restores voltage to the computer bus.



When current drain from the battery exceeds about 50ma, the voltage drop across the D1 ohmic resistance plus D1 barrier potential causes Q3 to forward bias. This activates the "battery supplying power" LED. This LED reaches full brilliance when current drain from the battery is about 120ma.

If power is restored after triggering, the current through the "bus transfer" LED is sufficient to hold SCR1 in conduction until the bus transfer reset button is pressed. SCR1 conduction will also keep Q2 forward biased and SCR2 triggered until

reset. The battery test switch causes SCR3 to trigger and a green LED to illuminate at long as the battery voltage, loaded by the 10 ohm/5W resistor, is above 3.3 volts.

DX CONVENTION

Submitted by Mike, WA7UVJ

DX CONVENTION

The the annual Northwest DX Convention will be held at the Renton Holiday Inn, July 24-26. This is your opportunity to get the latest scoop on DXing, contesting, techniques, and gossip. Along with all the forums the Saturday banquet features K7JA relating his experiences about reopening ZAland (Albania) to amateur radio. A tailgate flea market will be open in the adjacent parking lot for those who need their usual swap and swap fix. Sunday, a breakfast with ARRL DX editor W1YL, is the featured event with some additional forums before noon. For further information contact the Western Washington DX Club, POB 224, Mercer Island, 98040 or get a flyer at your local radio outlet.

SOME PICNIC INFO

Submitted by Mike, WA7UVJ

The annual Mike & Key picnic is only a month away. Scheduled for August 22nd at Seward Park, Julian, KA7MCB, has a special menu of ribs planned. Near the waters of Lake Washington, this site may provide some relief for heat-stroked members of the Club while enjoying the good food. The festivities begin at 11AM and will last as long as you can stand it. Plan on attending.

A map will be provided in next months Relay (right Julian?) for those who need directions.

BBS SELF DESTRUCTION

Submitted by Mike, WA7UVJ

Recently, due to the local self-destruction of the BBS network on 145.01, I have found myself without a home Bulletin Board. Because of this, I can no longer receive mail on N7HFZ and no other boards I can see really meet my needs. Until I can get crystaled up for some other frequencies, I won't be able to check out other options. While this hasn't been a problem in the past, cause no one in the Club seems to

enjoy sending articles via packet, I don't wish to ignore the problem.

So, alternatively, I can be reached on the PACKETCLUSTER system. In the south you can access this on 145.77 @ N7FSW. Up north, try 145.73 @ NV6Z. While there is a regular mail access through this system, I haven't found it reliable. Instead, just address any mail directly to me using the following format... "SP WA7UVJ" (don't use the quotes!), follow the prompts, and download your file. If you are interested in DX or contesting, see a related article on the PACKETCLUSTER system in next month's Relay.

FIELD DAY BITS AND PIECES

Submitted by Mike, WA7UVJ

It was an interesting Field Day to say the least. Down on 20/80 there were some great high's, some deeeeep lows, and average scores in the end. I did mess up on a couple things including hot dogs and 15 meter beams, but that's best forgotten. I guess if I make it back alive, it was a success.

Hey Arnold, you should've seen your 4 element Quad play! Somehow, I gotta get that thing on the tower this fall for contest season. Thanks to all the guys who helped throw it up, in ONLY 75 minutes. (That's gotta be a record.) If you missed seeing the 75 meter antenna by NU7Z, too bad. It was a "once in a lifetime" skyhook, running from the cliff to the beach - ten vertical elements. Then there was the Saturday night light show. Maybe them mid-western guys are used to that but 8 hours of lightning is unusual here. Looked like a war off to the south. One nice thing though, I got some extra shuteye when it got too close for my comfort.

It is time for some changes though. I've decided to step down from band-chairing for a while (five years, I need a break). That means 20/80 CW is up for grabs. It's fun, just a lot of preparation - wanna do it?. Start now. Got pictures? Bring 'em to the meeting. I need to see how much fun I had. 73 and Rock n roll.

WHY HAM?

Submitted by Ralph, WX7T

Why is an amateur radio operator a HAM?

Assuming we have all been asked that question numerous times and fumbled for answer, you might be interested in an explanation given about four years ago in Mature Outlook, the Sears sponsored monthly magazine for seniors.

Marconi's transatlantic transmission in 1901 created a great deal of interest in radio. At this time anyone in radio, which was not yet a commercial enterprise, was an amateur. With no radio manufacturing companies, all receivers and transmitters were home designed and built. Only those with talent in design could accomplish the entire feat alone.

It was not until sometime in 1912 when the national magazine Home Amateur Mechanics published a number of transmitter and receiver schematics that radio enthusiasts were able to build without doing their own original design work. During a QSO when the operator referred to the origin of his rig, the name Home Amateur Mechanics was too long and cumbersome and an abbreviation was in order. Thus, HAM was born. If you have another version of the HAM origin, pass it on to the Relay.

RADIO LEVYCondensed from an article by
Mai Maki, Valley Daily News

It appears that a \$55 million levy request may be placed before King County voters this fall. The money is slated for improving radio services between the different public safety services including gaps in coverage, crowded frequencies, and poor links between the current bands. The new system would be placed at 800MHz and require computer managed repeaters. Currently, public service radios run on 150MHz and 450MHz.

Several local radio vendors [commercial] have taken issue with the high

cost and the need for a new system. They assert that the 800MHz frequency will only cause more gaps due to the characteristics of that spectrum. The vendors also insist that only \$5 million would achieve an "industry standard... 97 to 98 percent coverage" under the present system.

EDITORS NOTES

Submitted by Mike, WA7UVJ

Whew, it's done! I don't normally like to do the RELAY this way but this was one busy week. What way??

Well, Monday through Wednesday were covered by school and meetings. Friday (this is Thursday) I need to get antennas up for 40 and 80 meters before the IARU contest starting Saturday morning (5AM). Following the contest on Sunday, the Seafair parades start (Kent) and I always support my local parades. The RELAY is supposed to get mailed on Sunday.

That left Thursday (tonight) evening to do all 10 pages of the RELAY. Fortunately, I conned my wife into typing a few handwritten articles into the 'puter but she snuck a in few bombs (love you dear) to see if I was paying attention. I was. (You're lucky Frank. Else a slight editorial regarding FD, from my wife, would have been buried within your article.)

Anyway, the point is, thanks to all who submitted articles and blessed are those who use floppy disks. Special kudo's to Lee, KG7OW. I can always count on coming home from work Thursday or Friday and finding a disk hanging from my doorknob. (That's above and beyond the call of duty OM.)

I've noticed a few of those officers who were so kind when starting their terms are slowing down. All I ask is ONE report a month guys. T'aint so hard, even a few scribbles on a piece of paper (just think, I have five 1000 word essays to do in school this term hihi). The rest of you Club members need to get your name in lights too. Write to me, I get lonely when you don't. See you at the Club meeting and on the parade route.

MIKE & KEY AMATEUR RADIO CLUB

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
July 13	July 14 7:30pm WWDXC Meeting	July 15 7:30pm Club Net on 146.82 Repeater	July 16 7:00pm Public Service Net 7:30pm PARS Meeting	July 17 7:00pm VE Exams - Seattle (NN7V)	July 18 7:30am Club Breakfast 8:00am Redmond Parade - WA7EBH 10:00am Club Meeting 1:00pm VE Exams	July 19
July 20 7:30pm Vashon Island ARC	July 21 7:00pm VE Exams - Auburn (NK7E)	July 22 7:30pm Club Net on 146.82 Repeater 7:30pm Radio Club Tacoma	July 23 7:00pm Public Service Net	July 24	July 25 4:30pm Des Moines Parade - WA7EBH	July 26
WWDXC DX Convention						
July 27 5:00pm University Parade - WA7EBH 7:00pm West Wash.ATV Society	July 28	July 29 5:00pm Greenwood Parade - WA7EBH 7:30pm Club Net on 146.82 Repeater	July 30 7:00pm Public Service Net	July 31 Torchlight Parade - WA7EBH	Aug 1 10:00am Boeing ARC Meeting 1:00pm VE Exams - Kent (KF7VG)	Aug 2
Aug 3	Aug 4 7:30pm Club Board Meeting	Aug 5 7:30pm Club Net on 146.82 Repeater 7:30pm Issaquah ARC Meeting	Aug 6 7:00pm Public Service Net	Aug 7	Aug 8 8:00am SeaTac Repeater Group 10:00am VE Exams - Riverside Inn 1:00pm NAPRA Meeting	Aug 9
Aug 10	Aug 11 7:30pm WWDXC Meeting	Aug 12 7:30pm Club Net on 146.82 Repeater 7:30pm Radio Club Tacoma	Aug 13 7:00pm Public Service Net 7:00pm VE Exams - Lynnwood (KF7QF)	Aug 14	Aug 15 7:30am Club Breakfast 10:00am Club Meeting 1:00pm VE Exams	Aug 16
Aug 17 7:30pm Vashon Island ARC	Aug 18 7:00pm VE Exams - Auburn (NK7E)	Aug 19 7:30pm Club Net on 146.82 Repeater	Aug 20 7:00pm Public Service Net 7:30pm PARS Meeting	Aug 21 7:00pm VE Exams - Seattle (NN7V)	Aug 22	Aug 23