



K7LED RELAY

Come to ragchew, eat and win prizes at the club's picnic

Well, ladies and gentlemen, hams and non-ham family members, it's that time of year again! Yep! Mike & Key Picnic time. With the weather being as it has been, let's hope it continues into our weekend!

Our picnic chairman has done a great job of securing a great place for us, and has some ideas up his sleeve to help us enjoy the activity to the fullest.

Sights & Sounds

Plus, the "Big Unit" with Wayne and Dianne will be there. The rest of the potluck dishes will make this a yummy event, as well.

The activities chair has chosen raffle prizes geared toward enjoying summer, so be sure to bring a few dollars to participate in the drawings.

There will be no speaker due to the picnic. There will be lots of time to ragchew, which many enjoy more than programs, anyhow, so be sure to gather up your family and make this a great outing with all of the rest of the Mike & Key members.

We're hoping that some of you who do not make many of the meetings will make it a point to make this one. See you there!!!

73, KC7YYB Dawn, activities chair.



Lowdown on the hoedown

The picnic will be held from 1 to 5 P.M. in Liberty Park, which is located next to the Renton City Library, roughly five blocks up the Cedar River from Salvation Army headquarters.

Our group will be at the covered shelter between the library and the skateboard park.

Hamburgers, hot dogs, condiments and soda pop will be provided by the club. Please bring a main dish or dessert to share.

Contact Dave KB7PSN at 425-235-5095 if you have questions.

Talk-in frequency will be 146.52 simplex.

The Inside Story

Ted KC7ZEO explains more about programming calculators.

Page 4

Mike N7WA hooks up with two members of the club's Old Guard.

Page 5

The ARRL honors Harry W7JWJ with its Mentor of the Year Award.

Page 11



The *K7LED Relay*, published monthly, is the official newsletter of the Mike & Key Amateur Radio Club. Mike & Key ARC is an ARRL-affiliated club dedicated to the growth and betterment of Amateur Radio.

The club meets at 10 A.M. the third Saturday of every month at Salvation Army Headquarters, 720 S. Tobin Street, in Renton (near the southeast corner of Renton Airport). Anyone interested in Amateur Radio is invited to participate in the Mike & Key ARC and its activities. Annual dues are \$12 for individuals and \$18 for families.



Postal Address

P.O. Box 4234
Renton, WA 98057-4234

K7LED Repeaters

146.82 output / 146.22 input (PL 103.5)
Squak Mountain

224.120 output / 222.520 input (PL 103.5)
Tiger Mountain

Web Site

www.mikeandkey.org

E-mail

info@mikeandkey.org

Reflector

<http://groups.yahoo.com/mkarc>

Send dues to

Treasurer Jack Grimmett
33 Peterson Road
Port Angeles, WA 98362-8102

Send newsletter submissions to

Relay Editor Paul McElroy
6947 Coal Creek Pkwy SE — No. 1000
Newcastle, WA 98059-3136
k7stq@arrl.net

Club Contacts

President	Sam Sullivan	N7RHE	svsullivan@comcast.net	253-631-0663
Vice President	Carolyn Pasquier	WV7Q	carolynp@sprynet.com	253-862-1157
Secretary	Gary Bryan	KG7KU	glacialview@worldnet.att.net	253-661-7882
Treasurer	Jack Grimmett	N7IHS	n7ihs@aol.com	206-437-2841
Activity Manager	Dawn Humphrey	KC7YYB	n7qhcdan@juno.com	206-243-0163
Radio Officer	Paul Roth	N7DOH	n7doh@comcast.net	206-550-9690
Trustees				
No. 1 (CoB)	Brendan Burget	KD7IKV	kd7ikv@arrl.net	425-774-1946
No. 2	Dick Radford	WA7NIW	wa7niw@arrl.net	425-828-9791
No. 3	Guy Molinari	N7ZG	guy_molinari@hotmail.com	253-630-2992
No. 4	Dick Vance	K7NEX	k7nex1@juno.com	206-246-2924
No. 5	Frank Tate	NA7O		206-762-4732
Logo Committee	Dan & Dawn Humphrey	N7QHC / KC7YYB	n7qhcdan@juno.com	206-243-0163
Webmasters	Jim Etwiler / Dave Smith	KD7BAT / KB7PSN	kd7bat@arrl.net	206-633-1512

Several club resources are available electronically:

Web: The club's site at www.mikeandkey.org includes extensive information about club events, VEC testing, membership, past editions of the *Relay* and more.

Mike & Key Online

Reflector: The public message board offers an easy and free way to converse with club members. To sign up, surf to: <http://groups.yahoo.com/mkarc>.

E-Relay: Want the newsletter in color and a day or two before the print edition arrives by regular mail? You'll also help the club save money in printing and postage costs.

To sign up, send a message to the editor: k7stq@arrl.net.

Welcome, Paul, our new radio officer

Sam Sullivan / N7RHE

President

On behalf of the Executive Board, I would like to welcome Paul Roth, N7DOH, as our new radio officer.

Paul was selected after interviewing interested candidates at the July board meeting. Paul wrote a short biography introducing himself—including his background and goals as radio officer—which appears below. The board is very excited about the upcoming events that Paul may bring to the club. Paul has always been active at Flea Market and Field

From the Hot Seat

Day.

On behalf of the board, I would ask that you give Paul your support and volunteer to assist in whatever manner you can with any committees or work groups he may need. Paul is enthusiastic about the role and is also willing to help in education.

I'm sorry to miss the August meeting, but the XYL thinks we need a vacation to Zero Land to see the brand-new granddaughter (as well as the other two) and visit the family cabin at the lake in northern Minnesota.

For education ideas or to join the committees, contact Guy N7ZG. For the Technical Committee, contact Dick K7NEX. If you have any ideas for a program or would like to present a program, please contact Dawn KC7YYB.

Radio hooked N7DOH when he was 12

Paul Roth / N7DOH

Radio Officer

I would like to thank the Executive Board for selecting me as radio officer.

I would also like to thank Alan Hughes, KB7SVU, for accepting to be my "right-hand man" in this exciting adventure. Alan and I have already begun diligently working together toward our goals.

Some of our goals are to assess and improve the repeater systems, enhance our arsenal of electronic test equipment, promote education with hands-on activities, and engage in more activities with the public and our fellow Amateur Radio organizations. Your input is always welcome and your support is greatly appreciated.

I became interested in ham radio as a youngster while visiting my ham uncle when I lived in New York. I was 12 in 1972 when

my older brother would take me to the high school ham club after classes, and where I eventually passed my novice exam and became WN2IBJ.

I remember well the old and what seemed like huge FCC building in Manhattan, where I sat and passed my general exam and became WA2IBJ in 1974.

My father was an aerospace engineer and acquired a job with Boeing, packed us all up and moved out to Washington in 1977 where I became N7DOH.

It wasn't until 1987 when I finally upgraded to an Extra, and it was my wife-to-be, Adrian, who inspired me while she prepared for her Technician exam.

During my years as a ham, I've worked with many kinds of radio systems—from tubes to chips and enjoying it all. I am active on all bands and a member of the ARRL, QCWA and FISTS.

Some of my education and training includes Associate of Ap-

plied Science in technical studies degree, electronic service technician and computer programmer certificates. In my career, I've earned the Washington State Limited Energy Master Electrician license, Fire Alarm NICET IV and Fire Suppression NICET I certificates.

I work as senior technical support specialist in the engineering department at Siemens Building Technologies. My duties are to design, engineer and review fire alarm, fire suppression, CCTV and security systems.

I also help the sales team with proposals, create and maintain software tools, and provide technical support to the branch workforce and America for their endeavors.

I have over 20 years' experience as a supervisor and field service / project technician. During that time, I've received many commendations and national awards from my employer.

Key Club Dates Next General mtg.: Aug. 20 Board mtg.: Aug. 31 Relay deadline: Sept. 9

Learn how to program your calculator

Editor's Note: In this second installment of a three-part series, Ted KC7ZEO follows up on his beginner's guide to calculators and explains programming.

Ted Roubal / KC7ZEO
Relay Correspondent

Providing your TI with a set of instructions (TI refers to instructions as command lines) that guide its operation through a series of steps or events in order to solve problems of mathematics and electronics is called programming.

Programs are very useful because they make it unnecessary to re-enter a long list of instructions each time you want to perform a series of often laborious mathematical operations on data. Programs can be saved in calculator memory (the TI 83s have lots of memory) and you can call up a program for use at any time. You can also delete programs from memory.

Inherent in programming is the ability to input numerical values (data) that the program uses for obtaining answers. With most programs, once all the data is input into the calculator, the program is automatically executed and returns an answer (or answers). Then it is ready to accept new data and go through the problem-solving process again.

Because the emphasis here is on programming calculators, minimal discussion of circuit operation will be presented.

If the reader would like to brush up on analog electronics, the 3rd and 6th editions of *Electronic Principles* by Albert P. Malvino, used in Electronics Technology at NSCC, are a good place to start.

The 6th edition is available at

Correction: Regrettably, part one of this series contained several errors. These included references to molecular instead of atomic weight and incorrect formulas on pages 5 and 8.

The July Relay on the Mike & Key Web site contains a fully corrected version.

The mistakes crept in due to a glitch in the text-recognition software used to scan the original hard-copy article—and your harried editor missed them. Mea culpa and sincere apologies to Ted.

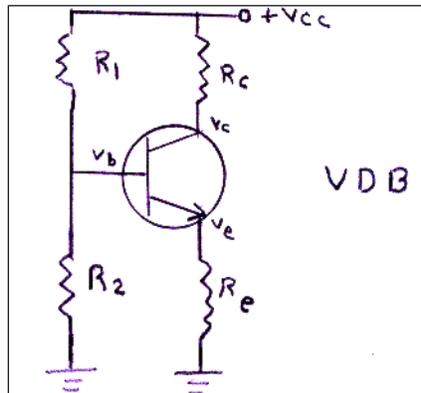


Figure 1: The VDB.

the NSCC bookstore.

The Programming Process

We'll write two programs, both of which can prove of value in any homebrew small-signal amplifier work. Because Voltage Divider Bias is widely used in transistorized linear voltage circuits (it's often called Universal Bias), writing a program that analyzes VDB is a good place to start our programming adventure.

The key to a well-designed VDB

is the "stiffness" of the voltage divider. A stiff divider characterizes a system where the Q-point of an amplifier is fixed and immune to variations in transistor Beta (β). The reader is referred to Malvino 3rd ed., pgs. 154-156 (or pgs. 260-266 in the 6th ed.) for a rigorous treatment of VDB.

The second program is for a swamped CE amplifier, a small-signal amplifier that uses VDB.

Referring to Figure 1, let's work on a program that uses as inputs V_{cc} , R_1 , R_2 , R_e and R_c , and returns (or displays) V_{bb} , V_e , $I_e=I_c$, V_c and V_{ce} . With these values we can plot the DC load line and locate the Q-point (illustrated on page 9). The math steps are shown below:

Step 1: $V_{bb}=(R_2 \times V_{cc}) \div (R_1+R_2)$

Step 2: $V_e = V_{bb} - 0.7$

Step 3: $I_e=I_c = (V_{bb} - 0.7) \div R_e$

Step 4: $V_c = V_{cc} - (I_e \times R_c)$

Step 5: $V_{ce} = V_c - V_e$

In order to enable the calculator to perform mathematical operations, we must devise a means of inputting numerical data for the calculator to work with.

To accomplish this, use is made of the PROMPT instruction. When PROMPT is encountered in a program, it means "now go ahead and input the data." We can input all the data as a single group of numbers or we can use PROMPT more than once in a program, thus providing a means of inputting portions of the data at a time.

Which method to use depends on the nature of the program. But, for now, the simplest approach is to input all the numbers as a single group. Thus, by inserting the PROMPT instruction near the be-

Continued on Page 6

Cameo appearances from the Old Guard

Michael Dinkelman / N7WA
Senior Contributing Editor

It all started fairly normal. It was an e-mail back in May from an old-timer looking for help in taking down a tower in North Seattle.

The e-mail gave an indication that the person had some connection with the Mike & Key ARC. Hmmm ... Al Jensen, WA7TIB? Sounded familiar, but he certainly wasn't someone I could remember as being a member or participant.

Anyway, we tried to connect to take down the tower in June, but I couldn't get a working team until at least July. Al thought he had someone else who could do the job, so I told him to go ahead and to let us know if it didn't work out later in the summer and I'd see what it looked like then.

Meanwhile, I was busy working toward Field Day, and June came and went. I heard back from Al in the first part of July. The other arrangements had fallen through.

Checking with Mike KA7CSE, we could get up there in the latter days of the month. I made the commitment and also promised to come up to look over the site beforehand. Al WA7TIB just seemed familiar.

I headed up to North Seattle after the July Mike & Key meeting. Tucked away on a small suburban lot I found Al's place and the tower. Al had just undergone an aortic bypass a week before, but he was on his feet and gave me the tour and showed me what had to be done.

It was then I learned he was

an old member of the club and I started remembering those old *Relays* I'd scanned from the early days. This was the Al who had made some of those crazy climbs (with others) to install repeater antennas and was prominently mentioned in many articles.

In fact, the tower had been put up by our longtime radio officer, Ken Rau, and another familiar name—Jim Strang. Cool!

Checking out my little yellow booklet when I got home, I found Al had been a past president of



AI WA7TIB

Mike KA7CSE on the high wire.



Mike N7WA

Al Jensen, WA7TIB, his XYL and Jim Strang. Al is a past president and Pop Brown Award winner.

the club and a Pop Brown Award winner.

KA7CSE and I came back a week later to take down the tower. Al was moving around pretty good considering his recent surgery. And guess who else was there—Jim Strang (who was pretty darn spry and another Pop Brown winner).

Those two members of the Mike & Key Old Guard pulled cables and hardline while Mike and I made short work of the antennas and tower. A lot of stories were told during our stay about the old days and we had a few to tell about the new. It was a lot of fun and I was glad we could help out.

Al was taking pictures, so I made sure we got a few, including his wife and Jim. I hope those of you who were around in the club in the late '70s and early '80s get a kick out seeing them again.

They both live too far away to make meetings, but send their wishes. Sounds like they both stay aware of club activities.

Programming your calculator

Continued from Page 4

ginning of the program, we can input all the data and the calculator can fetch from this list the appropriate numbers when called for in a program. The actual mechanics of inputting data following a PROMPT instruction will be thoroughly explained later.

When the last piece of data is entered, the program will now run. But as our program now stands, no answers will be displayed by the calculator. Why? The program is incomplete; we must include a few more instructions to make it perform as it should.

In the first place, we forgot to tell the calculator to display the results and when. DISPLAY is an instruction the calculator understands, and when the program encounters it, the answer to a just-completed step is displayed.

So let's modify the above series of steps to include PROMPT and DISPLAY at the appropriate locations in the program.

We write:

PROMPT (enter data, explained later)

1. $(R2 \times Vcc) / (R2 + R1)$ DISPLAY Vbb
2. $Vbb - 0.7$ DISPLAY Ve
3. $(Vbb - 0.7) / Re$ DISPLAY Ie=Ic
4. $Vcc - (Ie \times Rc)$ DISPLAY Vc
5. $Vc - Ve$ DISPLAY Vce

And when we run the program, we are disappointed because all we see is VCE IS (numerical value) DONE

None of the intermediate step answers (steps 1-4) are displayed. If you look closely at the screen as the program runs, you'll see a blur of numbers moving down the screen so fast you can't make

them out.

Evidently, we are still lacking something! And what are we lacking?

We need to use yet another instruction that the calculator recognizes—the PAUSE instruction. When PAUSE is encountered in a program, it signals the program to STOP, keeps displaying the answer to the just-completed step and doesn't proceed until instructed to do so.

And what gets the program up and running again? Pressing ENTER. Then the program continues on to the next step, solves the step, displays the answer, encounters PAUSE and stops with the answer maintained in view, awaiting another press of ENTER, and so forth until all the answers to all the steps have been presented.

Then the program stops, displays DONE and goes to sleep. It's easy to reawaken, however, and run the program again as often as desired.

We're almost ready for some actual programming, but there remains the matter of doing it in a way—using a format—that makes the program perfectly understandable by the calculator.

First is to consider that the steps in the problem solving build on one another. That is, the answer to the first step is used in the second step, and so we must devise a way to make this known to the calculator.

The way we do this is to use the STORE instruction. When the program encounters STORE (designated by the STO key), it stores temporarily in calculator memory the answer to the step just completed.

Thus, if we wrote $(2 \times Vcc)$ STO A, this instructs the calculator to store the numerical value answer of 2 times Vcc in a memory location we have designated as A. (Don't be concerned right now

about memory locations; I will explain this shortly.)

Then, if the next step in the program (or any subsequent steps, for that matter), requires the value $2 \times Vcc$ in order to calculate a result, we simply designate 2 times Vcc as A when writing the program.

If we now wanted to divide the result of $2 \times Vcc$ by 600, we instruct the calculator to do this with the instruction $(A \div 600)$, and since we'll probably need this value further on, we complete the instruction with STO B. That is, $(A \div 600)$ STO B instructs the calculator to store the result of A divided by 600 in memory slot B.

Now for some real programming. I suggest you read the following thoroughly before you put calculator in hand and try to follow along. Later, I'll show you some programming aids that will cut down on your chance of making mistakes when entering your program.

But if you do make mistakes—and this is easy to do—I'll show you how to correct them without having to start all over again. So let's get started:

1. Press the PRGM key.
2. If no previous programs are in memory, the calculator will display: EXEC EDIT NEW across the top of the screen.
3. Press the \triangleright button twice. NEW will be highlighted (white letters on a black background), and the message CREAT NEW is displayed.
4. Press ENTER and the message PROGRAM NAME = is displayed.

The calculator is asking that you now name your program, and you must do so to proceed.

Also, although not indicated, alpha-lock is on. I assume you know a little about

Continued on Page 8

Not too soon to plan for our hamfest

Michael Dinkelman / N7WA
Senior Contributing Editor

Alas, it's that time of year at which thoughts start turning to our annual fund-raiser, the Mike & Key Flea Market.

Let's start with the most important things first. Please reserve Saturday, March 11, (and Friday, March 10, if possible) so you can participate as a worker.

It takes well over 100 people of various skills and abilities to pull this event off each year. The more workers available, the fewer hours each of us has to work.

I like to consider this part of my annual dues because it provides the majority of the funding for this club. (You didn't actual-

Flea Market

ly think that \$12 a year covered our expenses, did you?) So please give this serious consideration.

Next, we need some event chairpersons. We are fortunate in that we usually have most return each year. Last year, we went without a Ticket chairperson. Needless to say, I felt that area could have been better organized. (I should know, I did a lousy job.)

Don't put the club through that misery again. Somebody here should be able to step up and do the job. Mostly, it requires scheduling the ticket sellers/takers and being on site Saturday morn-

ing. Most of the ticket sellers are pretty experienced and just need scheduling.

Mike Eakins has decided to take a break this year and withdraw from the Announcing booth. Pam Bryan has been the co-chair the past couple of years, so I am hoping she can step up. But she may want some help, so check with her if you are interested. It's a critical area.

At this point, I don't know of any other vacancies in the chairperson positions but stay tuned.

We will be holding the first organizational meeting in October. Watch next month's *Relay* for details. Worker signup books will become available at the October meeting, as well.

It's about time—hams can ignore change

Dave Smith / KB7PSN
Relay Correspondent

Back in 1986, President Reagan signed legislation to change Daylight Savings Time.

Instead of starting the last Sunday of April, it was moved to the first Sunday in April with the stroke of a pen.

Energy legislation just signed by President Bush makes another change to the calendar, effectively adding four weeks to Daylight Savings Time as we use it (starting three weeks sooner and ending one week later). During this time, clocks are to spring forward one hour (early spring), then fall back one hour (late fall). It will be lighter later in the day.

The primary justification for the change is to save energy. With more sunlight, people save electricity by using less for lighting and appliances, especially later

in the day.

As a reminder, Fire Departments encourage homeowners to replace the batteries in their smoke detectors on the day they adjust their clocks; otherwise, consumers tend to forget.

Many people tend to find it inconvenient to change all their clocks and adjust to a new sleep schedule. Therefore, many computer operating systems are programmed to automatically adjust them at the appropriate time.

With the impending change, there will most likely be a software update required before the intended March 11, 2007, implementation date. Cell phones, PCs, DVDs, VCRs, microwave ovens—practically anything with a clock—may also be affected. Thus, manual intervention may be required on these items.

As with previous rules, this change does not affect the system in place for American Samoa, Guam, Hawaii, Puerto Rico, the U.S. Virgin Islands, many portions of Indiana and the state of Arizona (not including the Navajo Indian Reservation).

As a convenience, Canadian time zones were adjusted to conform with their U.S. counterparts. If Canada doesn't follow suit with the new time zone effective dates, people may get confused as they cross the borders during one of the four weeks impacted.

For Washington state, we will just have to adjust our clocks at different times.

The good news is that the Amateur Radio community can still make DX contacts on time as the the GMT clock does not change during any Daylight Savings Time adjustment.

Giving your calculator program a name

Continued from Page 6

your calculator and the meaning of "alpha-lock is on." If not, read your TI instruction manual.

I named my program VDB (which stands for Voltage Divider Bias). When alpha-lock is on, the letter printed in green on the face of the calculator just above a key at the right edge will appear on the screen when a key is pressed.

Thus, VDB is selected by pressing the 6, \boxtimes and APPS keys in that order. The program name can be one to eight characters long, but the first character must be a letter and the rest can be letters and/or numbers or Θ .

One further note: You cannot place spaces in a program name. That is, the space key is non-functional in this mode. I don't know the reason for this; I have not seen it explained anywhere. BASE BIAS, for example, is entered as BASEBIAS. But this offers no special difficulty.

Giving a program a name also makes it possible to use one program as part of another. Suppose you're preparing a new program that needs the same answers as that supplied by a program you've already written, say VDB.

Instead of rewriting the earlier program, you use the instruction RECALL VDB (RCL key) at the place in your new program when you need the information provided by VDB.

5. After selecting a name, press ENTER.

6. You are now in the editor mode, and the colon (:) in the first column and second row indicates the calculator is ready to receive program instructions (TI calls these commands).

7. Our first instruction is the PROMPT instruction. Press PRGM \triangleright 2

to select PROMPT.

Press alpha A, alpha B, alpha C, alpha D, alpha D ENTER (Note: Don't forget the commas!) In all calculations to follow, A is Vcc, B is R2, C is R1, D is Re and E is Rc.

Now we are ready for Step 1.
8. Press the following keys:

((alpha A x alpha B) \div (alpha B + alpha C)) STO alpha P ENTER

Now press PRGM \triangleright 3 to select DISPLAY, then press the 2nd alpha-lock "VBB IS" alpha, alpha P ENTER (Note: Don't forget the quotes).

Now press PRGM 8 to highlight PAUSE, then press ENTER (Note: To place a space between VBB and IS, use the \square key.

NEXT.

Press (alpha P - 0.7) STO alpha Q ENTER

Then press PRGM \triangleright 3 (DISPLAY) and press 2nd alpha-lock "VE IS" alpha, alpha Q ENTER. Then press PRGM 8 (PAUSE) ENTER

Press (alpha Q \div alpha D) STO alpha R ENTER

Press PRGM \triangleright 3 (DISPLAY) 2nd alpha-lock "IC OR IE IS" alpha, alpha R ENTER

Now press PRGM 8 (PAUSE) ENTER
Press (alpha A - (alpha R x alpha E)) STO alpha S ENTER

Press PRGM \triangleright 3 (DISPLAY) 2nd alpha-lock "VC IS" alpha, alpha S ENTER

Press PRGM 8 (PAUSE) ENTER

And finally:

(alpha S - alpha Q) STO alpha T ENTER

Press PRGM \triangleright 3 (DISPLAY) 2nd alpha-lock "VCE IS" alpha, alpha T ENTER

If you want to run the program again, press 2nd QUIT PRGM ENTER ENTER (you are prompted to enter data and rerun the program). Otherwise, press 2nd

QUIT CLEAR to return to the home screen.

Your program is now saved under the name VDB. To access it at any time, Press PRGM, select VDB from the list of programs stored, then press ENTER.

That's it for the VDB program. In order to reduce your chances of mistakes (and also greatly shorten the time) when entering a program, you should write on paper all keystrokes for the program. But in place of letters, list the actual keys to press.

In step 1, for example, do not write: ((alpha A x alpha B) \div (alpha B + alpha C)) STO alpha P ENTER. Instead, write: ((alpha MATH x alpha APPS) \div (alpha APPS + alpha PRGM)) STO alpha 8 ENTER

In like manner, PRGM \triangleright 3 (DISPLAY) 2nd alpha lock "VBB IS" alpha, alpha P ENTER is written: PRGM \triangleright 3 2nd alpha-lock + 6 APPS APPS X LN + alpha, alpha 8 ENTER

Having done all of the above, let's see if our program works. Press 2nd QUIT ENTER ENTER and the PROMPT. A? is displayed. Let's use a value of 10 volts for Vcc, so press 10 and ENTER.

B? is displayed, and let's use 2,200 ohms for B, so press 2200 ENTER.

C? is displayed, and let's use 10,000 ohms for R1, so press 10000 ENTER.

D? is displayed, and for Re let's use 1,000 ohms, so press 1000 ENTER.

E? is displayed. We'll use 3,600 ohms for Re, so press 3600 ENTER.

If the program does not have any mistakes, it starts and displays VBB IS 1.803278689.

Press ENTER and displayed is VE IS 1.103278689.

Continued on Page 9

Public Service Events

Sun.-Fri., Aug. 21-26
Ride Around Washington
 Arlington to Davenport
 Contact: Gene, N7QLT
 425-485-5405
 gbudbill@
 seafairparademarshals.org

Saturday, Aug. 27
Celebrate Shoreline Parade
 Shoreline
 Contact: Gene, N7QLT
 425-485-5405
 e-mail: see first event

Sat.-Sun., Sept. 10-11
SCCA Sou'wester
 Shelton Area
 Contact: Jerry, KD7CZN
 360-943-7009
 jbjulian@comcast.net

Sunday, Sept. 11
Mukilteo Festival Parade
 Mukilteo
 Contact: Gene, N7QLT
 425-485-5405
 e-mail: see first event

Saturday, Sept. 24
Autumn Leaf Festival
 Leavenworth
 Contact: Gene, N7QLT
 425-485-5405
 e-mail: see first event

Saturday, Oct. 1
Salmon Days Parade
 Issaquah
 Contact: Gene, N7QLT
 425-485-5405

Sunday, Oct. 2
Kitsap Color Classic Ride
 Kington-Poulsbo area
 Contact: Gene, W7AKA
 425-226-4115
 w7aka@comcast.net

APRS 'gathering' in N. Bend

The 8th annual Summer Gathering for Northwest APRS will be held Friday-Sunday, Sept. 9-11, at Valley Camp in North Bend.

Come for 2½ days of fun, matching names to callsigns, hearing the latest on APRS and finishing your "back-burner" tracking projects.

The program schedule includes sessions on updates to the outgoing path configuration; digipeater setup and operation; APRS and public service

events; APRS and SAR; APRS application updates for various operating systems; APRS, NWS and Homeland Security weather data; and a work table for help completing projects.

Gathering is held at VaLLLEY Camp, off Interstate 90 Exit 34 east of North Bend. Go past the Edgewick Inn and turn right at the camp sign on SE Middle Fork Road.

See the "Events" list at www.nwaprs.org for more details.

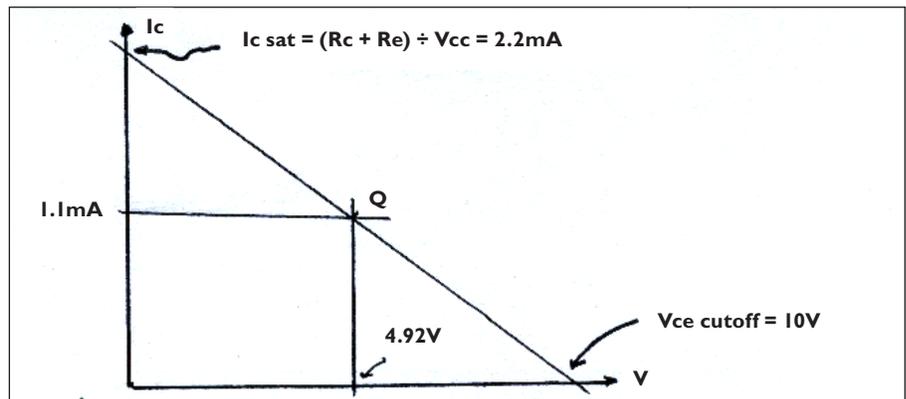


Figure 2: The DC load line and Q-point.

Finding DC load and Q-point

Continued from Page 8

Press ENTER and displayed is IE OR IC IS 0.0011032787.

Press ENTER and displayed is VC IS 6.028196721.

Press ENTER and displayed is VCE IS 4.924918033 DONE.

The data can be used for constructing the DC load line and locating a Q-point (Figure 2).

If, however, after entering the data and pressing ENTER there is something wrong with the program, you will be greeted with one of several messages. The most common is:

IMPROPER SYNTAX

1. QUIT

2. GOTO.

Press 2 GOTO and this will take you to the location in the program where the problem lies. The word *syntax* refers to the orderly flow of instructions. At some point in the program, the instructions don't make sense.

Perhaps you left out a divide or multiplication sign or asked for a memory location that does not exist (you entered a wrong letter, for instance). Or maybe you omitted a quotation mark.

In our final installment next month, we'll look at some mistake-correcting tactics. We'll also try our hand at another program—a swamped CE amplifier.

July 16, 2005

Officers present:

President – Sam Sullivan (N7RHE)
Secretary – Gary Bryan (KG7KU)

Trustees present:

No. 1 – Brendan Burget (KD7IKV) CoB
No. 2 – Dick Radford (WA7NIW)
No. 3 – Guy Molinari (N7ZG)

President Sullivan called the meeting to order at 10 A.M. at the Salvation Army Building in Renton, Wash.

All members and guests recited the Pledge of Allegiance.

The president made several announcements: The Mike & Key ARC is affiliated with the ARRL, which members are encouraged to join; everyone, including visitors, should sign the rosters; visitors are reminded not to vote on membership matters; smoking is allowed in the parking lot but not in front of the chapel. Members and guests introduced themselves.

Quorum present.

Minutes: Motion by Brendan KD7IKV and seconded by Michelle WA7PVE to approve the minutes of the previous meeting as printed in the *K7LED Relay*. Motion passed.

Officer Reports

President – Sam N7RHE: The next Mike & Key general membership meeting is Aug. 20.

Vice President – Carolyn WV7Q: Sam – New membership applicants. Dave Walter, AD7GG, George Kinsley, KD7JXM, and Dale Deering, KC7VLM, were presented to the club membership for approval, a hand vote was made on behalf of each of the prospective members, and each received unanimous approval. Welcome to the club, gentlemen.

Secretary – Gary KG7KU: Received in the mail the Lower Columbia ARA, W7DG, Longview, Wash., announces their 13th annual equipment swap meet, Saturday, Aug. 20, at the Castle Rock Fairgrounds, Castle Rock, Wash.

Treasurer – Jack N7IHS: Sam N7RHE – The report from Jack is that the club's accounts are good.

Radio Officer – Brendan KD7IKV gave an overview of the expectations and qualifications of potential radio officers.

General Mtg. Minutes

Prospective radio officers are welcome to attend the board meeting, where the position will be discussed.

Activity Manager – Dawn KC7YYB: Adrian KB7BVL – Raffle items are available, please participate.

Chairman of the Board – Brendan KD7IKV: The Mike & Key board meets July 27 at Galliano's Cucina in SeaTac.

Standing Committee Reports

Technical – Dick K7NEX: Not present.

Education – Guy N7ZG: Continuing to review and determine the needs of the club members. Input from the membership in the form of ideas and suggestions are always welcome.

Facilities – Brendan KD7IKV: An inventory of the club's Field Day equipment has been completed. Items that need attention are: generator health, generator trailer rebuild, antenna marking with clear identifiers and written procedures for assembly, and perhaps other items. This will take a significant work crew over two or more work sessions. A notification of work parties will be sent by e-mail when the dates and times are known.

Public Service – Dick WA7NIW: Event listings are on the tables. Be sure to sign up for the Torchlight Parade, if you have intended to do so and yet have not.

Strategic Planning – Frank NA7O: Not present.

Field Day – Mike K7OV, Alan KB7SVU and Gary KG7KU: Following today's meeting, there will be an interactive lessons-learned session. Sam N7RHE: Brendan KD7IKV, Steve KD7IQL and Alan KB7SVU have volunteered to co-chair Field Day 2006.

Old Business

Alligator: Gone missing.

New Business

Sam N7RHE – Jim KC7EVY was presented an award for MVP-Flea Market. A generous round of approval was heard as the membership applauded Jim's efforts.

Mike N7WA – The Flea Market Committee will meet in September or Octo-

Welcome, new members

The Mike & Key Club warmly welcomes our newest members, who were approved in July:

Dave Walter, AD7GG, an Extra from Seattle; George Kinsley, KD7JXM, a General from Des Moines; and Dale Deering, KC7VLM, a Technician from Seattle.

ber.

Sam N7RHE – Scott KC7UOC will chair the Awards Banquet for 2006. Thank you, Scott, for stepping up.

Jack N7ZS – Application for the Barracks for Field Day 2006 needs to be submitted as soon as possible, and a phone call nine months prior to Field Day needs to be made by the Field Day committee.

Brendan KD7IKV – Ham radio equipment will be available for purchase from the estate of the late Frank Krieger, KA7QHG, on July 23 and 24. A price list is available for those who are interested. On a separate note, some Tupperware and a cake dish were left over from Field Day and need to find their owner(s).

Good of the Order

Jim N7HKO – Will be moving to sunny Arizona. Gary KG7KU: I have noted on many occasions how Jim has stepped up, usually in a quiet way, to help the club. Thank you so much for your service to the club, Jim.

Michelle WA7PVE – Lisa, one of the friends who came along with them for Field Day, found out upon her return home that her father died that weekend. Also, Michelle has located some improved software for Field Day, which would make entering contact information much better. Field Day 2006 co-chairs noted this.

Alan KB7SVU and Steve KD7IQL – Awarded Jon Andrus with a "Climbed the Tower" award. Adrian KB7BVL, who showed her "enhanced bravery" and "inspiration" in the climb, was also awarded a "Climbed the Tower" award.

There being no further business, Brendan KD7IKV moved and Scott AG7T seconded a motion to adjourn. Approved and President Sullivan closed the meeting at 10:42 A.M.

Attested: Gary Bryan KG7KU, Secretary



Harry W7JWJ wins ARRL mentor of the year award

The Mike & Key's very own Harry Lewis, W7JWJ, and Connecticut Section Manager Betsey Doane, K1EIC, have been honored as the co-recipients of the Certification and Continuing Education 2005 Mentor of the Year Award.

The award recognizes excellence in helping CCE students online and in the classroom.

Harry is one of the CCE program's pioneer mentor/instructors, said ARRL Emergency Communications Course Manager Dan Miller, K3UFG.

"Harry spends much of his day responding to students, reviewing their activities and drawing upon a lifetime of learning to assure the best learning experience for

every student, regardless of what the course topic is," Miller said. He added that Harry "actively mentors nearly all of our technical courses."

ARRL Northwestern Division Director Greg Milnes, W7OZ, presented Harry with his award at the SeaPac convention.

— The ARRL

July 27, 2005

Officers present:

President – Sam Sullivan (N7RHE)
Vice Pres. – Carolyn Pasquier (WV7Q)
Secretary – Gary Bryan (KG7KU)
Treasurer – Jack Grimmert (N7IHS)
Act. Mgr. – Dawn Humphrey (KC7YYB)
Radio Officer – Vacant appointment

Trustees present:

No. 1 – Brendan Burget (KD7IKV) CoB
No. 2 – Dick Radford (WA7NIW)
No. 3 – Guy Molinari (N7ZG)
No. 4 – Dick Vance (K7NEX)
No. 5 – Frank Tate (NA7O)

Visitors: Jim KD7BAT, Dave KB7PSN, Dan N7QHC, Alan KB7SVU, Paul N7DOH, Adrian KB7BVL.

Chairman Brendan called the meeting to order at 7:10 P.M. at Galliano's Cucina in SeaTac, Wash.

Minutes: A motion by Sam N7RHE and seconded by Dick K7NEX to approve the minutes of the previous meeting. Motion passed.

Officer Reports

Chairman of the Board – Brendan KD7IKV: The next scheduled board meeting is Aug. 31.

President – Sam N7RHE: Next general membership meeting is Aug. 20.

Vice President – Carolyn WV7Q: New applicants. Ken Roger, KE7EAP; Jack Mitchell, KD7OEH; and Paul Gilmore, N7DIP. Each received approval by the board to enter into a vote by the general membership.

Secretary – Gary KG7KU: Received in the mail notice of Radio Club of Taco-

Board Mtg. Minutes

ma's Flea Market in Spanaway on Aug. 13.

Treasurer – Jack N7IHS: Not all the receipts and bills are in from Field Day. By the next meeting it should be known the effect of Field Day on the books.

Activity Manager – Dawn KC7YYB: Nothing new to report at this time.

Radio Officer – Brendan KD7IKV: Led the board in a formal review of the qualifications of Alan KB7SVU and Paul N7DOH as candidates for the position. The board elected to appoint Paul N7DOH as the new radio officer for the Mike & Key ARC. Sam N7RHE said that the decision by the Board was a difficult one in that each of the candidates had strengths complementary to the other. Gary KG7KU was tasked with locating the sealed envelope with the (existing) repeater codeset.

Committee Liaison Reports

Facilities – Brendan KD7IKV: A work party will be scheduled in August/September for refurbishing equipment, and a detailed inventory will be made then.

Strategic Planning – Frank NA7O: The club should attend to planning and training for leadership positions, especially when a transition is anticipated. Remaining on the list of other things is the location of a potential new meeting place.

Technical – Dick K7NEX: The current 6.82 repeater site is still under review. Access to this site is sub-optimal.

Public Service – Dick WA7NIW: Nothing new to report at this time.

Education – Guy N7ZG: Mini-Seminars will continue prior to the start of the general membership meetings. On the slate for August: "Handhelds." Come early to the meeting and join in the fun.

Picnic – Dave KB7PSN: Following the August general membership meeting is the annual club picnic. Bring your own food "and a little more." It will be held at the park by the Public Library building in Renton.

Field Day – Brendan KD7IKV: Jack N7ZS sent in the reservation for the Barracks for 2006. Mike K7OV and Brendan KD7IKV reviewed the data disks for each of the bands and determined there were problems. They are working those problems out as best as they can.

Old Business

No old business.

New Business

Jack N7IHS – Sam N7RHE and Mike N7WA have agreed to sit on the Finance Committee. The board approved.

Good of the Order

Brendan KD7IKV – A data analyzer was donated to the club from/by the late Frank KA7QHG's estate. Brendan encouraged the placement of a nameplate on the unit in Frank's honor.

There being no further business, Jack N7IHS moved and Dick WA7NIW seconded a motion to adjourn. Approved and Chairman Brendan closed the meeting at 8:32 P.M.

Attested: Gary Bryan – Secretary, KG7KU



Ham Nets & Events August / September 2005

Nets are on 146.82 unless indicated otherwise
Send calendar items to the Relay editor: k7stq@arrl.net

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
14 2000 — King Co. ARES (weekly)	15 0545 — Weather net: 145.33 (M-F) 1645 — Weather net (M-F)	16 2000 — Snoho. Co. RACES: 146.92 (weekly)	17 2000 — General / Tech info: 145.33 (weekly) 2100 — NWSOAR net (weekly)	18 2000 — Computer & Packet net: 145.33 (weekly) 2000 — Amateur TV net: 147.08 (weekly)	19 2000 — Youth net: 145.33 (weekly)	20 1000 — Club mtg. 1300 — Ham exams Mike & Key Picnic
21 2000 — Amateur TV net: 147.08 (weekly) Ride Around Wash. Kingston-Poulsbo (Sun.-Fri.)	22 2000 — YL net: 145.33 (weekly)	23	24	25 1900 — Pub. Service net (weekly)	26	27 0900 — WA ARES HF: 3.985 (weekly) Parade Shoreline
28 2030 — Snoho. Co. ARES: 146.92 (wkly.) QSO Parties: Ohio Hawaii, Kentucky (Sat - Mon.)	29 1730 — Puget Sound Traffic Sys. (daily) 1800 — WVA Emerg. HF: 3.985 (weekly)	30	31 1900 — Board mtg.	1	2	3 0900 — NW Swap net: 145.33 (weekly)
4 2200 — Northwest Astronomy net: 145.33 (weekly)	5 1830 — WVA ARES: 3.985 (weekly) 1930 — PS Repeater: 146.96 (weekly)	6	7	8	9 Relay deadline	10 SCCA Sou'wester Shelton area (Sat.-Sun.)
11 North American CW Sprint Parade Mukilteo	12	13	14	15	16	17 1000 — Club mtg. 1300 — Ham exams