

The KEY

The Newsletter of the Contoocook Valley Radio Club

<http://www.qsl.net/k1bke>

Volume 14, Number 1

February, 2002

CVRC Spring Flea Market

Sunday, March 17, 2001, has been confirmed for the CVRC Spring Flea Market at the Henniker Community School Cafeteria — Save the date now! Doors will open at 8:00 am (7:00 am for sellers) and the admission price is \$3.00 per person or 2 for \$5.00. The table fee for sellers is \$10.00 for the first table with additional tables available at \$8.00 apiece. Some outdoor tables may be rented at a discount, depending on the weather. Refreshments and a lunch-special will be available again this year. Please bring baked goods to donate to the cause!

The VE session starts promptly at 9:30 (registration at 9:00) and applicants are reminded to bring the \$10.00 ARRL-VEC test fee, one photo ID or two non-photo IDs, and the original and one photocopy of any amateur license or CSCE that they currently hold. For more information on the VE Session call Dexter Howe, KY1M, at 938-2955.

There is a copy of the flyer on page five of this issue of *The KEY*. Please make copies and distribute wherever you can. For more information on the flea market or to reserve a table contact Jock Irvine, N1JI, at n1ji@arrl.net or 428-3476 x256. Please don't call his home number since all the information regarding table reservations will be at the school in Henniker. All are reminded that the Henniker Community School is a smoke free campus.

The KEY is published every other month at the beginning of the even numbered months. The deadline for articles and submissions is the fourth Tuesday (coinciding with the usual business meeting schedule) of the preceding month.

NH QSO Party 2002 Al Marin, K1CYJ

Hey, the NH QSO Party almost didn't occur this year because of being bumped for a more encompassing New England QSO party in May. Thanks to your votes and support, our ARRL representatives saw that New Hampshire and its clubs did not want to lose part of the long history of participation in this event in this part of the country. Did you know that there are 17 radio clubs in New Hampshire? Not all the clubs participate, but over the years there have been some great rivalries. I understand that not too long ago the rules had to be changed in regards to DX multipliers because John Moore, N1FOJ, was such a DX hound that CVRC would cop the first place trophies at the chagrin of the other participating clubs.

There was another rule change this year that may affect the results in as far as participation and point gathering is concerned. Working a club station will not count as a bonus in the total calculations of points as it did during the prior years. Hopefully though, with members donating their scores after operating a good twenty-four hours, or what ever, will boost the club's status to where it should be.

Gerry Hull, W1VE, has set a goal of winning the individual honors this year before going to a Super Bowl party! He has also said that he would donate his total score to CVRC. How does Dale Clement, AF1T, feel about this challenge? No matter how many points you might have garnished in this contest, hopefully you will consider allowing the club to add them to its totals.

73, Al

January VHF Sweepstakes Summary

Dale Clement, AF1T

The January 19-1 ARRL VHF Contest is now history. 6-meters opened up, though the Europeans were gone by the beginning of the contest at 1900 UTC. On Sunday morning I worked a few Europeans (Including TF3AX) and by noon the west coast was coming through. This opening lasted about 2 hours, and helped the grid count. The higher bands did not experience any good conditions, but quite a few locals showed up at times. A highlight was 10-GHz, where the small wavelengths are scattered by snowflakes. The Saturday evening snowstorm allowed me to make several contacts on each of the ten bands from 6-meters through 3-centimeters. Lee, AA1YN, now has his 222 MHz antenna up and had fun operating four bands.

The next major VHF contest is scheduled for the weekend of June 8-10.

Extreme QRP

Dale Clement, AF1T

6-meters has been a hot band during the past few months. Some of the F2-propagated signals have been incredibly strong. Lots of folks are using QRP (Low power). A good example is VE8NSD in Northwest Territories, running 2-watts from a Yaesu FT-817 into a vertical antenna. He generates a pileup of calls every time he gets on from his rare location. N6CA has been working states and grids with as little as 10-mW. He inspired me to try what I call "Extreme QRP."

I connected the L.O. port of a double-balanced diode mixer (Type SRA-1) to a 22-MHz crystal oscillator (Powered by a 9-V battery), and the I.F. port to the 28 MHz transverter output of my TS-820S H.F. rig, through an attenuator. The

R.F. port of the DBM was routed through an attenuator a coaxial switch to my 7-element 6-meter Yagi. 28-MHz plus 22 MHz equals 50-MHz — Lo and behold, an instant transverter! Of course, the image frequency of 6-MHz (28-MHz minus 22-MHz) is also produced, but the Yagi filters most of this out. The coaxial switch allowed me to use my regular 6-meter receiver (Drake TR-6), which is more sensitive than a DBM without an RF stage.

I contacted some of the locals — N1EUX, K1DG, K1WHS, and WB1FLD, with as little as 2.5 microwatts. Each of these contacts figures out to hundreds of millions of miles-per-Watt. The best DX was with F6FHP on Jan. 3, 2002. He copied my 2.5 microwatts at 3445 miles (5544 Km.). This is 1.37 billion miles-per-Watt! Does this seem possible? The ionosphere must act like a pretty good mirror at 50-MHz, and perhaps even provides some focusing "gain!"


New Years Eve Hamfest in the Adirondack

Al Marin, K1CYJ

It is said that when you meets strangers and start conversing, or even on the ham bands when you are in a rag chew QSO, invariably you will find some mutual acquaintances lurking in each other's background. I would like to put that to a

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test, sort of.

Last New Year's Eve, my XYL Jane, and myself, were visiting with our daughter, Connie and her family, in Jay NY. Well, we were invited to attend a home party with some of her fellow church friends before the Big Ball came down on 2002. As it turned out, we met five members of her church who are amateurs and needless to say we didn't leave until the New Year had come in. Now, I wonder if anyone of you know some of these fellow hobbyist of ours? Marty Bausman, KC2BRO is the pastor of the Nazarene Church in Wilmington NY, near Lake Placid. Then we met the two Lawrence Boys, Alan, KC2BKN, who belongs to another CVRC in upstate NY and his brother Ladd, KC2HOH who is married to Phyllis, KC2IPM. Finally, George Warren, N2UTY, made his appearance. He has been very instrumental in organizing public service communications for the ongoing athletic events around the Olympic town of Lake Placid. He even invited me to participate in their weather net the next morning at 7 am on 2 meters. Do these calls ring any bells?

Isn't it uplifting to meet new people, especially those who have similar interests to yours?

Ham radio does provide a vehicle like that. It is always pleasurable to be able make new friends on the air and then also have eyeballs to eyeballs.

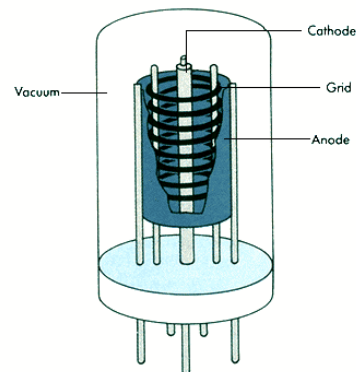
Repairing Power-Amplifier Tubes

Dale Clement, AF1T

Last week I turned on my homebuilt 6 meter linear amplifier and heard a loud bang. Then I noticed that it was drawing idling current in the "standby" mode. Not good! Troubleshooting revealed the problem — a grid-to-filament short in one of the two 3-500Z triode tubes. These are expensive — over \$200 each for the Eimac graphite-anode version like mine, which I believe is no longer made by Eimac.

I set the amplifier aside and worked some of the west coast stations still rolling in on 6 meters. I ran into Jud Snyder, K2CBA, an old friend from Grafton, NY, and mentioned my problem. He reminded me of an old trick: Vaporize the shorted grid wire with a pulse of high current. My reluctance was countered by Jud's query, "What have you got to lose?" I jumpered the two filament-pins together, and also the three grid-pins together, and connected my variable power supply between them. Alas, the short persisted; apparently the available 8-Amps wasn't enough. Jud insisted on more current, and to connect the tube up to the 115-V house circuit. This should be safe, as the short would vaporize in a few milliseconds. That still seemed risky to me (Don't try this at home...). But I remembered a 2 car battery, charged up for emergency use, so decided to hook that up instead. The tube flashed. tapping the glass produced another flash, and a second tap still another. An ohmmeter test showed that the shorted path had opened up. The stray grid-wire that had likely fused itself onto the filament was finally vaporized! I replaced the tubes, as well as the series protective resistor in the 2.5 KV power supply (Which did its job and burned open).

The amplifier seems to run as well as ever — 1.4 KW out with 70W drive. I'd been using the same 3-500Z's for over 25 years, and thousands of contacts, so certainly have gotten my money's worth (They were only about \$50 each when new). Maybe they'll blow out tomorrow, or perhaps last another 25 years. Meanwhile, I'm looking for spare 3-500Z tubes. Thanks to K2CBA for the suggestion.



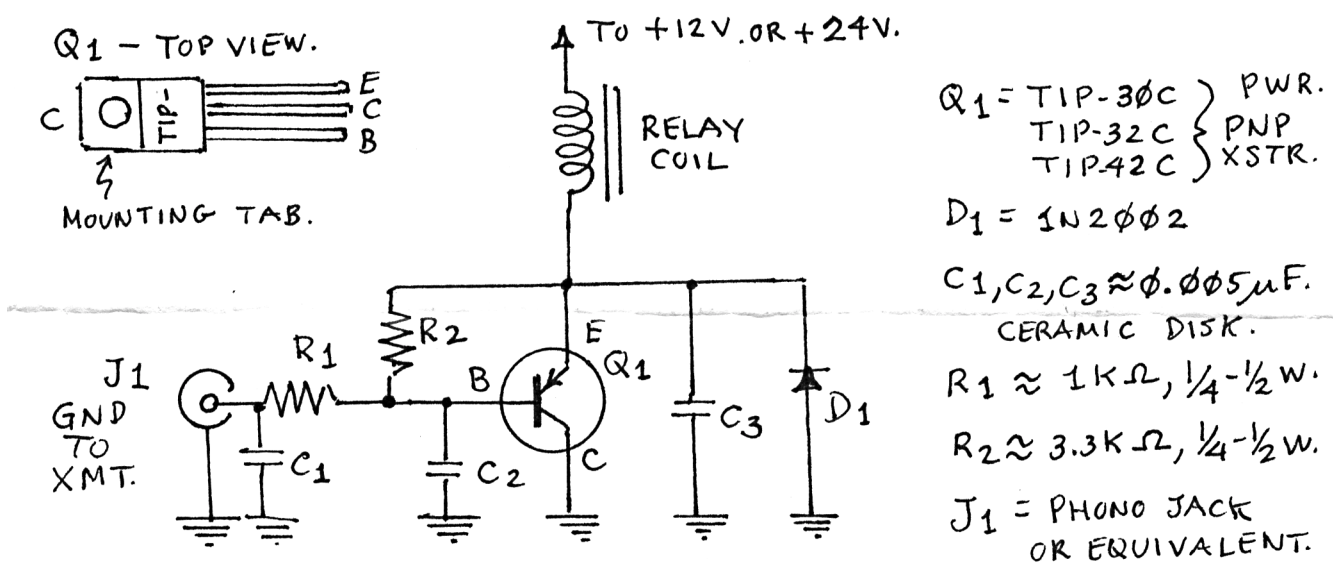
A Simple Amplifier Relay Control Circuit

Dale Clement, AF1T

Here is a simple method of keying (energizing) a relay such as that found in a linear amplifier. I use variations of this circuit to control my various home-built amplifiers and transverters. Directly grounding a relay coil to energize it can damage the sensitive contacts in your HF exciter, due to high current or transient sparking.

Nearly any PNP transistor can be used for Q1, provided it will handle the relay-coil current, and open circuit voltage. An advantage of the TIP-type transistor shown is that the collector terminal can be grounded directly through the 6-32 mounting screw, which will heat-sink it to the chassis. Diode D1 reduces induced reverse-voltage spikes from the relay coil. Capacitors C1, C2, C3 bypass stray R.F. energy, and are typically 0.001 uF to 0.01 uF ceramic disks. R2 may be 1KΩ to 10KΩ, 1/4W or 1/2W, and R1 is nominally 1KΩ, 1/4W or 1/2W. R1 may be reduced in value if the E-C voltage drop of Q1 exceeds 2V or so (depends upon relay and Q1 gain). Increasing R2

will reduce the keying current current through J1. As depicted, this current is only a few mA, which is a considerable improvement over the directly-keyed relay (100 mA or more) sometimes found in old equipment. The keying current can be further reduced (to 0.1 mA or less) by cascading a small PNP transistor to Q1 in "Darlington" fashion, or by using a special "Darlington" version of Q1. This exercise is left for the reader to pursue.



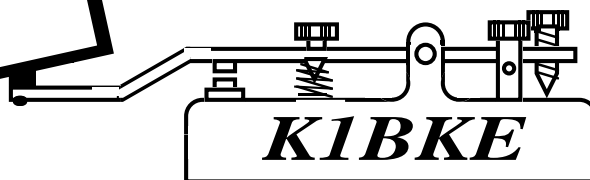
RELAY CONTROL FOR AMPLIFIER.

INDOOR Ham Radio Flea Market and V.E. Session

Sunday, March 17

The Henniker Community School
Henniker, NH (near Concord)

Talk-In: Call K1BKE
146.895 (-600, PL: 100 Hz)



Doors open at 8:00 am (7:00 for sellers) and close at 1:00 pm

Admission: \$3 for buyers (2 for \$5), \$10 for sellers

Please note: There is no smoking allowed on school property

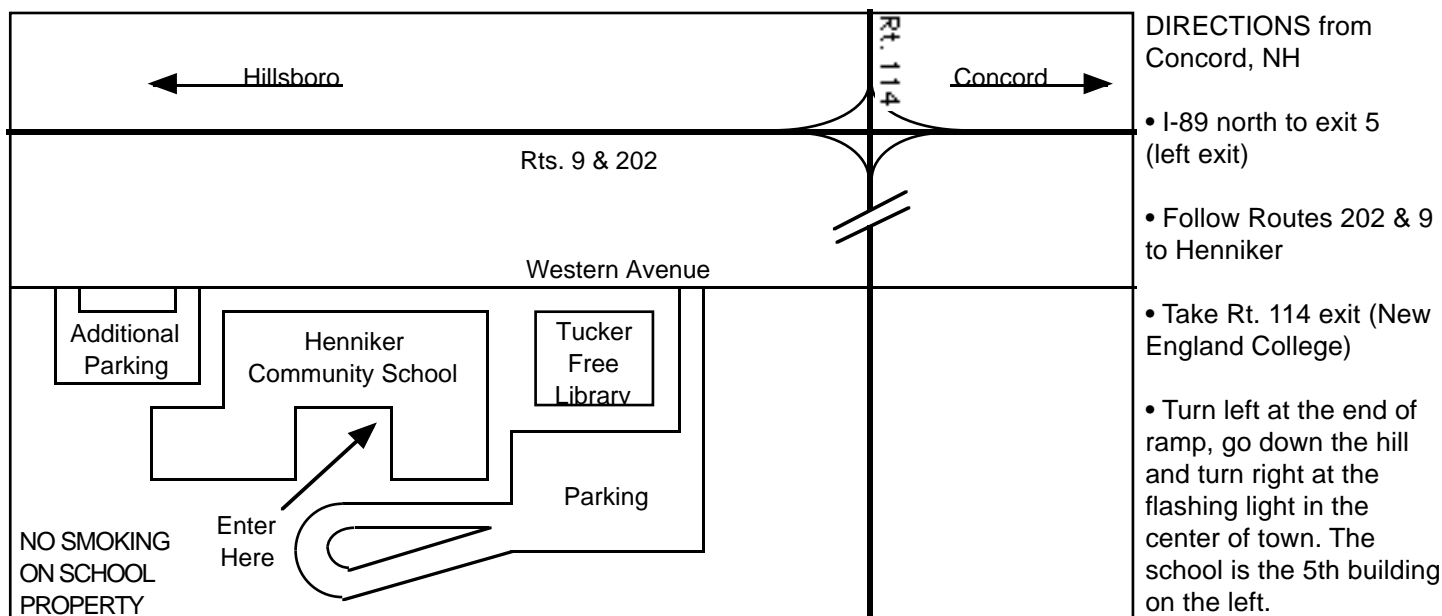
Admission price for sellers includes free table (please do not bring your own) and a complimentary ticket for the HT raffle. Additional tables may be rented for \$8 apiece. Depending on weather conditions, some outdoor spaces may be available at a discounted price. There is a limited supply of tables! **To reserve a space call Jock Irvine, N1JI, at 428-3476 x256 or email n1ji@arrl.net**

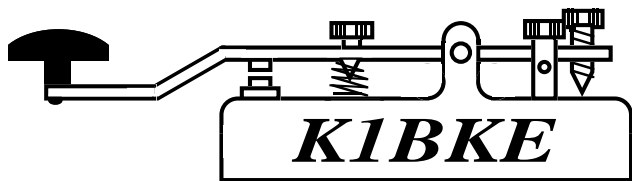
The V.E. session starts promptly at 9:30 am (Registration starts at 9:00)

No one will be admitted after that time!

For information call Dexter Howe, KY1M, at 938-2955. Preregistration is not required. Candidates should bring the \$10.00 ARRL-VEC test fee, one photo ID or two non-photo IDs, and the original and one photocopy of any amateur license or CSCE that you currently hold.

Refreshments and Lunch Specials Available!





The KEY is published six times per year and is distributed free to members, friends, and Amateur Radio organizations in New Hampshire. *The KEY* may be copied or duplicated, in whole or in part, provided that credit is given.

CVRC CLUB CALL: K1BKE

CVRC operates:

K1BKE/Rptr 146.295/146.895

K1BKE:CENTNH 145.57 Packet Node

CVRC OFFICERS

Shawn Upton, KB1CKT	President	
Larry Damour, N1PHV	Vice-President	529-2884
Skip Doughty, N1PHZ	Treasurer	746-3894
Don Curtis, N1ZIH	Secretary	224-1697
Jack Sheehy, W1JS	Trustee of club call	529-5635
	K1BKE Repeater trustee	
Lindsay Collins, K1JY	Packet node trustee	495-3983

ACTIVITIES & COMMITTEES

Flea Market	Jock Irvine, N1JI	225-4248
Programs	Dale Clement, AF1T	428-3840
V.E. Sessions	Dexter Howe, KY1M	938-2955
License Classes	Bob Hadley, K1DWI	783-9294
Field Day	OPEN	
ARES	Tom Matisko, N1SKZ	464-4095
Outgoing QSLs	John Moore, N1FOJ	746-4817
Public Service	Steve Ingham, N1HXO	746-6412
Historian	Louise French, K1LAS	428-7253
Membership	Dave Connors, N1KTP	456-3787
	Scott Clay, N1ZGO	746-4543

The KEY:

Editor	Jock Irvine, N1JI	225-4248
Advertising	Tom Matisko, N1SKZ	464-4095
Circulation	Don Curtis, N1ZIH	224-1697
Contributors:	AF1T, K1CYJ	

Send Amateur Radio news to N1JI at 5 Celtic Street, Concord, NH 03301, or e-mail n1ji@arrl.net.

Contocook Valley Radio Club

P.O. Box 88

Henniker, NH 03242