

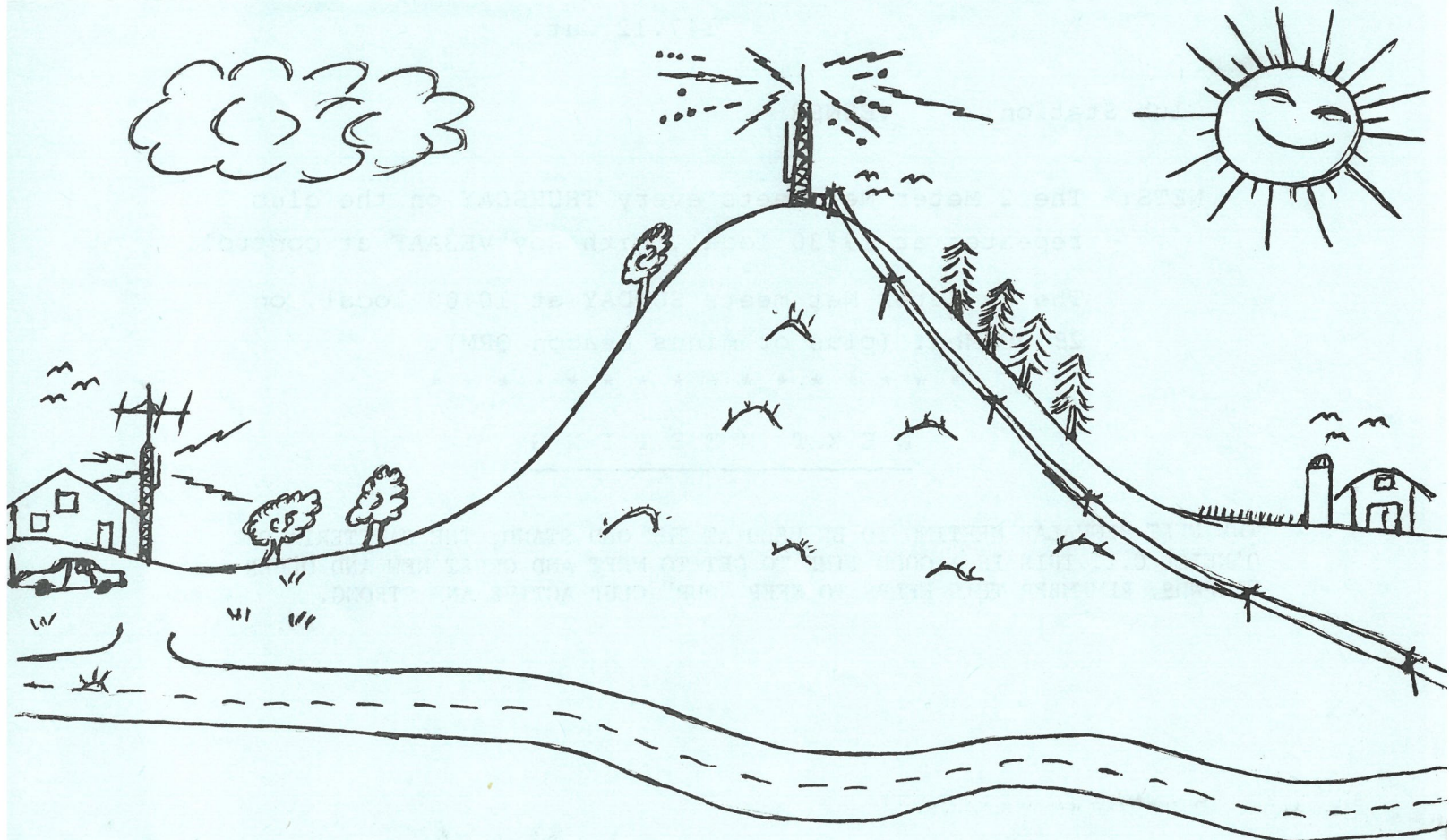
FROM: THE NORTH SHORE RADIO CLUB INC.,  
P.O. BOX 171, OSHAWA, L1H 7L1.



FEB 1982

TO:

VE3CRK  
DAY, Ralph  
454 Holcan Ave.  
OSHAWA, Ontario  
L1G 5X6



" S P A R K S "

THE NORTH SHORE AMATEUR RADIO CLUB INC.

FEB. 1982 EDITION

OFFICERS & EXECUTIVE

Directors	Colin Bell	VE3CEU	723-7842
	Bob Elston	VE3LLE	725-5124
	Bob Leet	VE3LLZ	725-1236
	Mac McFarlane	VE3IKG	723-8484
	Hank Verwoerd	VE3FHV	571-0863
President	Bob Elston	VE3LLE	725-5124
Vice-Pres.	Mac McFarlane	VE3IKG	723-8484
Treasurer	Hank Verwoerd	VE3FHV	571-0863
Secretary	Colin Bell	VE3CEU	723-7842
Registrar	John Pluister	VE3FGL	655-4269
Get-Well-Cards	Ted Brant	VE3ADD	668-3561
Editor	Doug Smith	VE3MKC	705-786-2086
Tech. Editor	Position Open		

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Club Repeater: VE3OSH 147.72 In.  
147.12 Out.

Club Station: VE3NSR

NETS:- The 2 Meter Net meets every THURSDAY on the club repeater at 19:30 local, with Roy VE3AAF at control.

The 10 Meter Net meets SUNDAY at 10:00 local, on 28.200Mhz. (plus or minus beacon QRM).

\* \* \* \* \*

N E X T M E E T I N G

THE NEXT REGULAR MEETING TO BE HELD AT THE OLD STAND, THE CAFETERIA OF O'NEILL C.I. THIS IS A GOOD TIME TO GET TO MEET AND GREET NEW AND OLDER FRIENDS. REMEMBER THIS HELPS TO KEEP "OUR" CLUB ACTIVE AND STRONG.

ED.



NEWS AND VIEWS



FIRST ITEM OF SOME IMPORTANCE AS THE EDITOR OF 82, I WOULD LIKE TO INTRODUCE MYSELF.

NAME: DOUG SMITH.

QTH: R R # 4  
LITTLE BRITAIN, ONTAIRO, CANADA.

KOM2CO

THE STATION CALL LETTERS

VE3MKC

AS EDITOR I WOULD LIKE AT THIS TIME, TO CALL UPON ANY AND ALL PERSONS TO SUPPLY INFO ABOUT YOUR STATIONS OPERATION AND ANY OTHER NEWSY BITS.

FOR THOSE WHO DON'T KNOW ME , MY STATION IS ALL HALLICRAFTERS APPLIANCES - THE HEART BEING A 1966 HT-46 AND SX-146 (TRANS & REC.) FOR ALL HFWORK - ALSO GENERAL HAM COVERAGE IS DONE WITH AN OLDER SX-111 RECEIVER AND GENERAL SHORT WAVE COVERAGE DONE WITH SX-130.

THE ANTENNAS ARE WIRE HORIZONTAL DIPOLE FOR 80 METERS AND 20 METERS WITH A CONVERTED CB VERTICLE DIPOLE FOR THE 10METER BAND ----REALLY EFFICIENT EH. ED.



SOMETHING FOR THE NEWCOMERS WITH THERE 10 METER ENDORSEMENT - THE 10 METER BAND IS VERY MUCH ALIVE AND WELL WITH SOMETHING CALLED THE 1010 INTERNATIONAL NET. THE IDEA BEHIND THIS WAS TO INSPIRE GREATER USE OF THE 28 MHZ. BAND. THERE DOESN'T SEEM TO BE A SPECIFIS FREQ. ALTHOUGH, 28.860 MHZ. IS THE NET FREQ. BUT YOU FIND CHATTY GROUPS EVERYWHERE BETWEEN 28.500 MHZ. AND 28.900 MHZ. WHERE THEY EXCHANGE 1010 ID. NUMBERS AND INFORMATION.

AMERICANS NEED 25 CONTACTS FOR A CERTIFICATE BUT WE FOREIGNERS UP HERE ONLY NEED 5 CONTACTS AS WE ARE CLASSED AS "DX".. I'VE BEEN PLAYING WITH IT FOR A COUPLE OF WEEKS AND HAVING SOME FUN AS WELL AS MEETING INTERESTING PEOPLE.

FOR THE OLDTIMERS WHO HAVE JUST SCOFFED AT THIS IDEA - NO, I HAVEN'T GIVEN INTO CW. HEATH KIT JUST SENT ME MY LATEST TOY, THE NEW MICRO MATIC KEYS AND AT THE TIME OF THIS WRITING I NOW AM USEING IT ON THE AIR.

I PERSONALLY FIND IT EASER TO USE THAN THE STRIEGHT BRASS KEY.



OTHER BIG NEWS. THE HAM RADIO MARKET IS STILL ON THIS SPRING. WHERE YOU ASK????

LOCATION: AJAX COMMUNITY CENTRE.

DATE: SAT. APRIL 3rd, 1982.

###;

TIME: 0700 HRS. TO 1400 HRS. LOCAL

IF YOU HAVE ANY QUESTIONS YOU SHOULD CONTACT DON VE3HYW , JOHN VE3FGL OR MAC VE3IKG. I AM LED TO BELIEVE THEY ARE STILL IN NEED OF PEOPLE TO HELP AS USUAL IN THIS KIND OF EVENT THERE IS MUCH TO DO, PLEASE PITCH IN

THANKS.

" S P A R K S "

WANT TO SAVE SOME MONEY? I GUESS THATS A PRETTY SILLY QUESTION THESE DAYS ISN'T IT.

WELL THE MANITOBA HYDRO HAS SOME WAYS, SO THEY CLAIM. HYDRO CLAIMS THAT PUTTING A TIMER ON THE HOT WATER HEATER COULD SAVE YOU FROM 29% TO 51% OF THE UNITS CONSUMPTION OF ELECTRICAL ENERGY. ( I CAN SAVE YOU A HUNDRED % IF YOU DON'T MIND COLD WATER.) HERE IS THERE STORY-- -- .

oops. TO BRING ABT. THE ENERGY SAVINGS TIMERS WERE SET TO TURN WATER HEATING ELEMENTS ON FOR TWO HOUR PERIODS ONLY TWICE DAILY-- IN THE MORNING AND EVENING TO COINCIDE WITH PERIODS OF PEAK WATER USE.CONSUMPTION WAS MOMITORED OVER A FOUR WEEK PERIOD WITHOUT THE TIMERS CONNECTED AND THEN FOR AN EIGHT WEEK PERIOD UNDER TIMER OPERATION.

THE CLAIMED ENERGY SAVINGS GAINED WOULD PAY BACK THE COST OF A TIMER IN APPROX ONE YEAR. USE OF THE TIMER MAY REQUIRE SOME CHANGES IN FAMILY LIFE STYLE SUCH AS CLOTHES WASHING ONLY WHEN THE WATER HEATER IS OPERATION.

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I HAVE A SPACE FOR THE SWL'S. WHAT HAVE YOU PEOPLE BEEN LISTENING TO OUT THERE? PLEASE SEND ME A LONG OR SHORT NOTE ABT. UR. RADIO ACTIVITIES - WHATS NEW?,UR OPINION ON THE EQUIPMENT THAT U USE. HOW MANY COUNTRIES HAVE U LISTENED TO? ARE U CLOSE TO GETTING UR 1ST TICKET?

P.S. DID U KNOW THAT SPY TRANSMISSIONS HAVE BEEN HEARD IN ENGLISH ON 4.308, 5.810, 6.722, 8.413, 9.072, 9.117, 11.250, 12.405 and PROBABLY DOZENS MORE. AND DID U KNOW THERE IS A HAM HURRICANE NETWORK ON 14.325 KHZ.

THE FOLLOWING IS A TABLE TO CONVERT THE DECIMAL PORTION OF THE FEET MEASUREMENT.

| <u>DECIMAL PART OF ONE FOOT</u> | <u>INCHES APPROX.</u> |
|---------------------------------|-----------------------|
| 0- .05                          | 0                     |
| .05 - .10                       | 1                     |
| .10 - .15                       | 2                     |
| .15 - .25                       | 3                     |
| .25 - .35                       | 4                     |
| .35 - .45                       | 5                     |
| .45 - .55                       | 6                     |
| .55 - .65                       | 7                     |
| .65 - .75                       | 8                     |
| .75 - .85                       | 9                     |
| .85 - .90                       | 10                    |
| <del>.90</del> .90 - .95        | 11                    |
| .95 - 1.0                       | 12                    |

!
THE PREZ. SEZ.

WITH PHIL LEITH'S (VE3LNE) ACCEPTANCE OF THE POSITION OF TECHNICAL EDITOR OF MY EXECUTIVE GROUP I FEEL I HAVE A COMPLETE AND ENTHUSIASTIC GROUP. IT SURE HELPS TO HAVE SUCH A CAPABLE GROUP TO WORK WITH AND MAKES THE PRESIDENT'S JOB SO MUCH EASIER.

THANKS FELLOWS , FOR YOUR HELP

\*\*\*\* TECHNICAL SECTION \*\*\*\*

As the new Technical Editor, I am going to attempt two articles per issue. One will be of a construction nature, circuit antenna etc. and the other of a more general nature and continuing through a number of issues.

GENERAL PURPOSE TONE DECODER

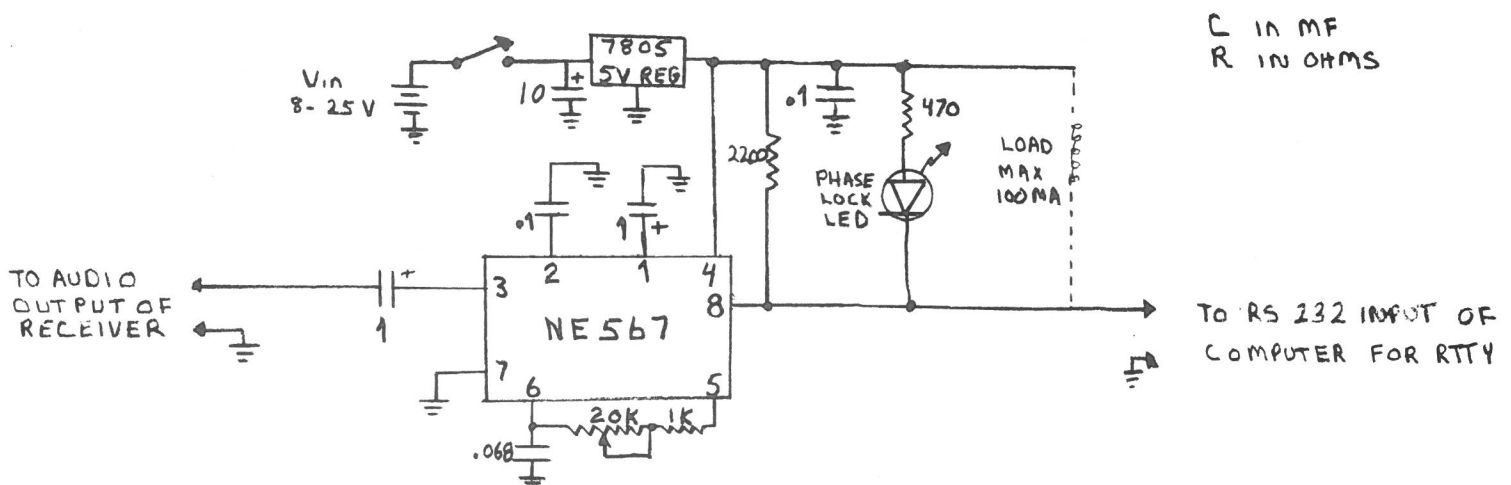
To start things off lets look at a phase locked loop circuit using a readily available (Radio Shack) chip, the NE567. This chip was designed primarily for tone decoder applications, and as such can be put to good use around the shack.

The circuit shown below is representative of a general purpose tone decoder. I whipped up this circuit originally to change the "tweedle tweedle" of RTTY to a digital bit stream for use with my computer. The circuit is suitable for many other uses as we shall see.

Here's how the chip operates:

The 567 contains an internal oscillator. The resistor and capacitor connected to pins 5 and 6 are used to set its free running frequency. I will refer to the free running frequency as  $F_0$ . The formula for  $F_0$  is  $F_0 = 1.1/RC$  and with the components given should have a range of about 500 to 10K Hz. The 20K pot is used to set the desired  $F_0$ . When a frequency close to  $F_0$  is applied to the input (Pin 3) the output (Pin 8) appears as a short to ground, otherwise Pin 8 is open. In Digital Jargon this is called an uncommitted or open collector output. Connect a load (relay, lamp, ect.) to a positive supply and Pin 8, and the 567 will switch the load on whenever it locks on to an input close to  $F_0$ .

NOTE: The maximum load current for the I.C. is 100 m.a.



GENERAL PURPOSE TONE DECODER



NEXT QUESTION: How close to  $F_0$  does the incoming frequency have to be before the 567 locks (Pin 8 switches)? Technical Jargon refers to this as the loop capture range. This is determined by the "C" to ground on Pin 2 and with the value shown will be about  $\pm 5\%$  of  $F_0$ . Assume an  $F_0$  of 1000 Hz and the 567 will lock for input frequencies between 950 to 1050 Hz. For consistent results the input frequency level should be 200 m.v. or more. Below 200 m.v. input the capture range becomes smaller than that predicted by the "C" on Pin 2. The "C" from Pin 1 to ground is part of an output filter and determines the response time of the output switch. Decreasing the value will speed up the switch but also makes the output "chatter" when the noise level at the input is high. Increasing "C" slows the response of the switch. My experiments showed that .5 to 1 m.f. was the right compromise.

The 470 ohm resistor and LED give a visual indication of lockup. The LED will light whenever the output switch is closed. The 2200 ohm resistor was used to pull the output Pin to 5 volts when not switched. This was needed for the computer interface and can be left out when driving a relay ect. The input voltage can be anywhere from 8 to 25 volts (9 volt battery) with a 7805 1 Amp regulator supplying the 567 voltages.

#### \* APPLICATIONS \*

O.K. you've built the circuit, understand what's going on and want to use it around the shack.  
Here are some suggestions.

- (1) Interested In Rtty: Set  $F_0$  to about 2000 Hz and tune in an RTTY signal until the LED flickers in step with the "tweedle". The RTTY signal consists of two tones and the 567 is locking on one and unlocking for the other, generating a digital bit stream at pin 8 (use the 2200 ohm resistor for this one). By having the 567 lock to either the upper or the lower tone (depends how you tune in the RTTY signal) you can invert the digital signal. I feed this to my Radio Shack color computer (RS232 input) and have had many a good copy. If anyone has this computer I can supply you with the program to display the RTTY.
- (2) C.W. Tuning Aid: Set  $F_0$  to the receive side tone frequency of your H.F. transceiver. This is usually between 600 and 1200 Hz (see your manual). Tune your receiver on a CW signal until the LED is blinking with the incoming signal. Your CW signal has magically been centered in your CW filter and if your R.I.T. is off your transmitter is zero beat as well.
- (3) C.W. For the Deaf: Use as in 2 and read C.W. signal from the L.E.D.

- (4) NEED A SQUARE WAVE OSCILLATOR? Pin 5 has a square wave of frequency  $F_0$  for your use. Only precaution here is that load presented to Pin 5 should be greater than 1000 ohms. (you'll need a buffer for most uses). This is where you hang a scope or counter by the way for precise setting of  $F_0$ . You can throw away the components connected to Pins 3 and 8 if all you want is an oscillator.
- (5) Here's one for the experimenter: A 100 Hz C.W. filter. Use as in 2 except instead of listening to the incoming C.W., use the output pin 8 to turn an audio oscillator (code practice oscillator ect.) on and off, and listen to this oscillator instead. Amazingly all background noise and adjacent interfering signals vanish. Perfect C.W.?  
Let me know if you try this one, and how it works for signals close to the noise.

There must be 1000 uses for a tone decoder around the house so get experimenting.

Next issue along with the construction article I will begin a mult-issue article on satellite T.V. This will cover the components required for a home system from antenna through to receiver as well as the characteristics of satellite T.V.

Phil--VE3 LNE

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SELL----SWAP----BUY

FOR SALE: Call-Books, 1979 U.S. \$5.00, and 1981 U.S. \$10.00. A Freq. counter Micronta 50Mhz. c/w pouch etc., \$50.00. Contact

Stan VE3MDV at 705-738-3336.  
(Fenelon Falls)

\*\*\*\*\*

WANTED: Sharp CW xtal filter, audio filter, or "Q" multiplier type, to be used with Heath Comanche.

Contact Bernard Ferris 668-6177.

\*\*\*\*\*

FOR SALE: Tri-band transceiver. Eico 753. Excellent first rig. 100W out on 80/40/20M. This one does not drift. Make an offer to Jack at 725-9464.

\*\*\*\*\*

WANTED: External VFO, tuning 6 to 8Mhz.

Call Moe 705-277-2984.

\*\*\*\*\*

FOR SALE: Yaesu 207R, c/w DC and AC charger, batteries etc., \$450.00. Also Motorola HT220s (2) \$250.00 ea.

Call Phil at 655-4069.

\*\*\*\*\*

WANTED: Teletype machines. Any type or model. Set your price and call Phil.

655-4069.

\*\*\*\*\*

FOR SALE: Dummy-Load. Quart size, up to 200W. Filled with special oil. \$18.00 or 2 for \$30.00. Still have some of the special oil for anyone who requires.

Call Mac at 723-8484.

\*\*\*\*\*

WANTED

XTAL. 32.0 Mc FOR VES MKC.

REMEMBER 1982 MEMBERSHIP DUES ARE SUPPOSED TO BE IN BY JAN. FIRST OF THIS YEAR. WITH A NEW EDITOR, AND LOTS OF NEW IDEAS YOU WOULDN'T WANT TO MISS EVEN ONE ISSUE OF THIS ILLUSTRIOUS JOURNAL.