

MARCH  
1981

# the Repeater

TCRC QUARTERLY MEETING THUR APRIL 23



## ALL SOLID STATE Hi Pro Mk I Repeater

THE PREZ SEZ  
by  
JIM WNOAKY

Boy! how time flies. It seems like just last year that I accepted the job of President of the TCRC repeater group. What a year its been too. What seemed like a monumental task of redistributing the functions of running a repeater back into the membership has been accomplished. We have been able to look at our problems and arrive at solutions for them based upon member participation, a pleasant solution to most problems. We now feel that we at least have some say in the decision making process of the repeater.

And speaking of repeaters, the new machine has been ordered and is expected to be in operation around June 1. (How about that, a new repeater with a real phonepatch, no shoe boxes, and everything.) The decision to change frequency has been made. We will become one of the pioneers in the low-low 144 Mhz band (144.89/145.49). (No more intermod or interference problems—we hope!) By the way, for the information of you diehard complainers out there, this one did a 'gotcha' on me too. After agreeing to the new split, Ron told me that not only will I have to sell my IC230, (no 144 coverage), but I have to do a mod on my TS700 for duplex operation on the new freq. Oh well, thats what I get  
CONT. P67

# the Repeater

VOL. 5 NO. 1

'The Repeater' is published 8-12 times yearly by the Twin Cities Repeater Club as its official organ. This newsletter is sent to all members of the club and Squadron 24 of the Happy Flyers. The TCRC is set up under ARRL guide lines with a constitution and by laws. Meetings are tentatively the 4th Friday of July, October, January and April. Each year in July, the club elects four new officers with the past officers going to the board of directors. The May and/or June issue will carry a list of candidates, and the annual financial report. Full membership in the TCRC is \$10.00 yearly, \$5.00 for associate, an \$.50 or more for students. The club owns or is in the process of buying the repeaters it sponsors.

#### TCRC OFFICERS:

President,  
Jim Boylan WNØAKY  
Vice-President,  
Ron Wright KBØBU  
Secretary,  
Ken Fortman KBØNU  
Treasurer,  
Charlie Mills NØBIH

#### BOARD MEMBERS:

Chairman,  
Norm Johnson WØTHY  
Ivan Frantz WØBU  
Bruce Lindsey KØGNB  
John Scoby NØALK

#### TRUSTEE:

Ivan Frantz WØBU

#### NEWSLETTER STAFF:

Managing Editor,  
Keith D. Kaiser WAØTJT  
13700 Thomas Ave. So.  
Burnsville, Mn. 55337  
890-0584

Twin Cities Repeater Club (TCRC)  
P.O. Box 19225, Mpls. Mn. 55419.

To access autopatch; use 4 to 5 seconds of \*, check for dial tone to clear 3 to 4 seconds of #. If it won't clear, just drop your carrier, the activity timer will drop it after 45 to 50 seconds.

## NEWS OF OTHER CLUBS & SERVICE GROUPS

NORTH STAR HIGHBANDERS: VHF/Public service meets 3rd Friday of each month at 3524 Hennipen Ave So. Meeting starts at 7:30PM refreshments served.

ST. PAUL RADIO CLUB: Meets the 1st F-iday of each month, Sept. thru May at the St. Paul Red Cross Bldg. Meeting starts at 7:30PM, Code & Theory classes are taught. Contact WBØKIS "Warren" 771-7549 for info.

3M RADIO CLUB: Meets the 3rd Thursday of each month, meetings begin at 5:15PM.

RADIO AMATEUR TELETYPE SOCIETY (RATS): Meets the 2nd Monday of each month, 7:30PM at the Courage Center, located in Golden Valley.

ST. CROIX VALLEY REPEATER ASSN: Meets the 3rd Tuesday of each month at 7:30PM at the Dibbo's Hotel in Hudson, Wisconsin.

MPLS. RADIO CLUB: Meets the 3rd Friday of the month, at the Dunwoody Technical Institute. Radio & Theory classes are taught there. For further information contact; WØBE "Bob" 339-1193.

MINNESOTA VALLEY HAMMERS: Meet the 2nd Friday of each month from 7 to 9:30PM at the House of Prayer Lutheran Church, 76th and Chicago Ave Richfield.

HONEYWELL AMATEUR RADIO CLUB: Meets the 4th Tuesday of each month. Bulletins from ARRL headquarters (WIAW) from the preceding week are read each Tuesday on the Honeywell ARC net (except meeting nights). The net meets on the 04-64 repeater at 7:30PM Tuesday. Anyone is welcome to check in on net nights.

CHANGES OR ADDITIONS to this list should be submitted in writing to Keith WAØTJT, 13700 Thomas Ave. So. Burnsville, Mn. 55337.

#### NOTE:

Seeing as the story about my QSO with SA2NTA in the last issue was so poorly received, I have decided not to tell you about my QSO with BU5NNY!!--Have a happy Easter anyway.--WAØTJT

#### TCRC OFFICER NOMINATIONS

Nominations for club officers are now being accepted by Ken Fortman KBØNU at 463-8616 or any current club officer. Nominees and their qualifications will appear in the MAY/JUNE issue of The Repeater along with a ballot. All ballots returned by the July 31 club meeting will be counted at that time and the new officers will be announced in the following issue of the newsletter.

#### NOTE:

On or about June 1 the TCRC will QSY to 144.89/144.49, with a -600 offset. This is being done in order to eliminate the problem of the 22/82 - 25/85 mix.

# APPLE BITS

## Computer/Amateur

BY: DOUG NØBIS

THIS ISSUE WE THOUGHT WE WOULD COVER A TOPIC THAT WOULD USE BOTH THE R.F. AND COMPUTER HOBBIES TOGETHER, NAMELY CONNECTING THE COMPUTER VIA SOME SORT OF INTERFACE TO A TERMINAL UNIT AND GETTING ON THE AIR WITH THAT NEW RTTY SYSTEM.

AT PRESENT THERE ARE TWO RTTY PROGRAMS WHICH MOST OF THE FELLOWS USE. ONE IS THE GALFO, THE OTHER IS THE MACROTRONICS. BOTH HAVE ADVANTAGES OVER THE OTHER AND BOTH HAVE BEEN MODIFIED SO THAT THE OUTPUT FROM THE APPLES GAME PADDLE IS THE SAME NO MATTER WHICH PROGRAM YOU ARE USING. THESE OUTPUTS & INPUTS ARE ALL TTL LOGIC LEVELS AND ARE USED AS FOLLOWS:

PIN#2 (SNO) IS USED AS THE RTTY INPUT PORT, A 5 VOLT HIGH APPLIED HERE FROM THE T.U. = A MARK. PIN#15 (ANO) IS THE RTTY OUTPUT PORT. A MARK ALSO = A HIGH HERE. PIN#8 IS THE SYSTEM GROUND. PIN #13 (AN2) IS USED FOR CW ID WHERE THE OUTPUT IS LOW DURING RTTY OPERATION & KEYS HIGH DURING STATION ID. PIN#14(AN1) IS THE TRANSMIT/RECEIVE TOGGLE, A LOW FOR TRANSMIT, HIGH FOR RECEIVE.

THE ENCLOSED CIRCUIT HAS BEEN DEVIDED INTO TWO PARTS, THE INTERFACE AND THE T.U. THE INTERFACE CIRCUITRY MAYBE USED WITH ANY TERMINAL UNIT, WHILE THE T.U. SHOWN WILL WORK ON VHF FM WITH NO TROUBLE, IF 5% COMPONENTS ARE USED. THESE ARE SIMPLE CIRCUITS AND ARE NO PROBLEM

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Listed below are some computer oriented Amateur Radio nets. They may help you with any problems or programs:

COMPUTER	DAY	Time EST	FREQUENCY
Apple	Sun	9pm	14.329
Apple (East)	Sat	8am	7,260
Atari	Sun	8pm	14,329
Dig. Group	Sat	11am	14,281
	Sat	5pm	7,190
SWTP-6800	Sun	9pm	14,250
TRS-80 Tandy	Sun	3pm	14,342
	Sun	6pm	14,342

AMRAD Newsletter, Washington, D,C,

We are saddened to report the death of fellow club member Ray Jones KAØEHR this past December. The condolences of the entire club go to his family, he will be missed.

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# OPEN SATURDAYS

Meeting was called to order by Jim Boylan at 7:50 PM, 1/30/81 with 18 paid members present.

The minutes of the meeting of 10/24/80 were accepted as published in the last newsletter. Treasurers report was given and accepted. Current balance is \$130.71 with accts rec of about \$165.00 for advertising.

Outstanding debts were a phone bill of about \$50.00 (including the changing of the phone line and number), and the newsletter publisher was owed about \$9.00 (bill not submitted yet).

There was no old business.

**New Business**

Keith (WØTJT) made a motion that the club apply for membership in the ARRL, with the secretary delegated to get the information. Seconded by KBØBU and passed.

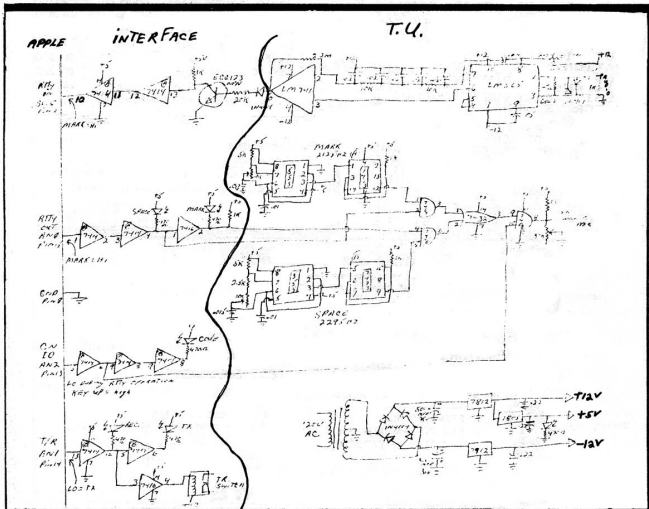
WØAKY brought up the subject of frequency problem, and motion was made by NØBIH, seconded by WØWVNZ, that WØAKY contact

the new frequency coordinator, and request a new repeater pair, but not commit us until the membership has considered the new pair. The goal is to get the 87/27 pair. Motion passed unanimously.

WØAKY also brought up the idea of replacing the repeater equipment with "store bought" equipment, and having a fund raiser/donation drive for the sole purpose of purchasing the equipment. (Ed. Note: See story and information on donations else where in this issue.)

A list of members and their commitments was passed around, and there was about \$700.00 comitted. This reportedly would be nearly enough to replace the transmitter and receiver portions of the repeater.

At 8:58 PM a motion was made by WØFDZ TO ADJORN, SECONDED BY KBØGF, and passed. NEXT MEETING APRIL 24, place and time to be announced on the air. ---KBØNU



NØAGC MICHAEL	WAØCAF DICK	WBØGDR GREG	AJØØ JIM	WB4TDB VOLLIE
KAØATI TOM	WDØCEP JOHN	KBØCF STEVE	WØØJJ MARYLN	K7HCV GORDON
NØAKD PAUL	KAØCIR BILL	WØØFY KØØØ	WØØNM JEFF	K9HDF JIM
WØØAKJ MIKE	WDØCIT LARRY	KØGNB BRUCE	WØØSJ BUD	OZ9MD MOGENS
WØØAKY JIM	KAØCNF JON	(KBØGO JERRY)	WØØVP BRUCE	WDØFFO SAM
NØALK RICH	WAØCQG CARL	(KAØELA SUE)	WØØNH ROBERT	KAØIGL LARRY
NØAME BILL	WØØCUM ALBERT	WØØHC JIM	WØØRT SHERM	
NØAMQ JIM	KBØD MONTY	KBØHC JON	WØØRV PAUL	WDØGHC JOHN
NØARS MEL	KAØDFZ ROBERT	WBØHQI NORD	WØSBO MERT	KBØDS DAVE
NØARU DAVID	WØØDUN HOWARD	WDØHQY CHARLES	WØTHY NORM	N2LA JOYCE
WAØASU JOHN	KAØEHD DON	WØØTE SAM	WØØTF RICHARD	KAØDDK SCOTT
NØATP BARRY	*KAØEHR RAY	WØØZR BRUCE	WAØTJT KEITH	WØWBJP MARK
WØØBE ROBERT	KAØEHT DAVID	WØØTKS DAVID	WØØTNH BERT	NØBYI ED
KAØBIT MARK	WØØEQS ARNOLD	WØØJKM KEN	WØØTOR GREG	WØRSB BERT
NØBIH CHARLIE	(WØØETY DICK)	KAØJLB ART	WØØUP ED	KAØIMK KAY
NØBIS DOUG	(WØØEJ PAT)	KØJWI RICHARD	WØØYU LARRY	WØBWP WILT
WDØBJA ROD	WDØFDZ ROD	WØØKDV WALTER	WØØVNH MIKE	WDØGQM ALEX
WØØBJX PERRY	KBØFH ROBERT	KØLCO JIM	WØØWZ LEE	WØPVP BRUCE
KAØBKK DICK	KØØHC STEVE	WØØLV KEN	WØØIQ FRED	NØCAA CRAIG
NØBNF BILL	WØØFOU DON	KBØMC JIM	WØØZH MIKE	WØØYUA BILL
WØØBFS CHARLES	KØØUP DON	WØØFV GERALD	WØØZF LESTER	WBØZR RALPH
KBØBU RON	WØØFVP TOM	KØØVL ROBERT	WØØZA GORDON	KBØOC GENE
WØØBU IVAN		WØØSJ GEORGE		
WØØZJ GALE		KBØNU KEN		
		WBØNZB <del>RON</del>		

#### TCRC MEMBERS

The above list is the last official roster of members in the TCRC. Some of these people have let their membership lapse and have been advised of such. I will try to run a list of members in each of the next few issues, until all errors are eliminated. If you are a member and not listed please let me know, if you are listed and not a member let me know that too. Membership info can be found on page 2 and an application is on the last page.

As you know membership is not a requirement to use the TCRC 31/91 machine, and never will be. But repeaters cost money lots of money, ours is no exception. We have an open repeater, with a 24 hour a day monitored autopatch, and a democratically run club, show your support by completing the membership application and returning it today.

\*

Silent Key



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NEXT MEETING \*

FRIDAY, MAY 29, 1981--PLACE AND PROGRAM  
TO BE ANNOUNCED

Recently a pilot was helped in a power failure near Modesto California by local hams.

Darkness had set in and the power failure affected everything except engine ignition of h's 182.

The pilot, WA7JAZ, contacted WB6UMT who completed a phone patch to Modesto tower. W6RBT and W6LDP kept the frequency clear during the emergency, and the tower brought the pilot in for a safe landing. This report in WORLDRADIO is one of many of interest to pilots and hams.

The Saturday morning breakfasts at Jerry's Lemon Tree Restaurant in Apple Valley are becoming increasingly popular. Computers, especially Apple, are the main subject. The group welcomes hams, pilots, and anyone interested in computers, radio, flying, direction-finding, search & rescue, or related fields.

A.M. WEATHER now appears on KTCA-TV2 Monday through Friday 6:45 to 7:00 AM. It is a very complete weather report with numerous satellite and radar pictures of the United States. Existing wind and precipitation patterns and forecasts are given.

EVENTS OF INTEREST \*

Sat., March 28  
St.Croix Valley Repeater Assoc.  
HAMFEST  
Sat., April 4  
Rochester Area HAMFEST  
Sat., May 30  
Amateur Fair '81, Minnesota State Fair-  
grounds  
August 1-8  
OSHKOSH '81 : Oshkosh, Wisconsin  
Nov., 16-20  
COMPSAC '81 ; Chicago Computer, Software,  
and Applications Conf.

Hope to see you at our next meeting.  
--Mert, W0SBO

## Amateur Radio for the handicapped

Do you have any friends or family who are seriously handicapped? Their life might be brightened by being able to operate an Amateur Radio Station. Many people who are blind, have missing limbs, are unable to speak, are confined to bed or wheel chairs have received their licenses. They have been given a new lease on life by being able to communicate and make new friends around the world.

There is an organization dedicated to helping these people. It is an international service called Courage Handi-Ham System. It consists of handicapped and able-bodied amateurs dedicated to bringing the excitement of Amateur Radio to persons who otherwise could not make it. The organization provides educational material, close personal supervision, loan of equipment and special devices to allow station operation by the handicapped.

If you want more information, write: Courage Center, Courage Handi-Ham System, 3915 Golden Valley Road, Golden Valley, Minn. 55427. The organization needs equipment, working or not, also donations to keep it going. Courage Handi-Ham System currently serves about 1,000 people worldwide. □

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### THE PREZ (cont'd from p. 1)

for not paying attention to what I'm doing. The final point that I'd like to make is that I have never been involved with a better group of people than those in the TCRC. The successes of the last year have proved that to me. I only hope that we are able to continue in the same manner over the next year. By the time this is in print we will be at that time of year when we must elect new officers. In the past it has been the custom for the outgoing officers to endorse new candidates. Well in keeping with that tradition I'm challenging the entire membership to come forward and throw their hats in the ring. I do not think that there is one single member that can't hold office and do a better job than I have. I'd like to see several nominees for each office this year. Come on guys--if I can do it for a year anyone can! (nuff said?)

In closing I'd like to thank my officers and the membership of the TCRC for giving me their support and resources in my year at the helm. I don't know of anything that's been more interesting and fun than the opportunity to serve you guys in the office of President.--TNX AND 73!--Jim

# ZERO BIAS

This column is devoted to the listings of; Contests, Area conventions, Hamfests, Swapfests, Picnics, Garage sales, Auctions as a calendar of events open to all clubs and members.

## CALENDAR

Apr 4-5	ARRL Open CD Party—Phone
Apr 8-9	DX/YL to NA/YL Contest—CW
Apr 11-12	ARRL Open CD Party—CW
Apr 15-16	DX/YL to NA/YL Contest—Phone
Apr 18-19	YL ISSB QSO Party—Phone
Apr 18-20	QRP QSO Party
Apr 25-26	Helvetia Contest
May 2-3	County Hunters SSB Contest
May 9-10	Rocky Mountain Division QSO Party
May 10	DARC Corona 10-Meter RTTY
May 16-18	Michigan QSO Party
May 23-24	Europe and Africa Giant RTTY Flash
Jun 6-7	VK/ZL/Oceania RTTY DX Contest
Aug 8-9	European DX Contest—CW
Aug 15-16	SARTG Worldwide RTTY Contest
Sep 12-13	European DX Contest—Phone
Sep 12-13	G-QRP-Club CW Activity Weekend
Sep 12-14	Washington State QSO Party
Sep 26	DARC Corona 10-Meter RTTY
Nov 8	DARC Corona 10-Meter RTTY
Nov 14-15	European DX Contest—RTTY
Dec 26-31	G-QRP-Club Winter Sports

**FIELD DAY**—this year falls on June 27 and 28, anyone interested in participating with the TCRC should contact Ron KBØBU 435-7762 or Keith WAØTJT at 890-0584.

HAMFEST

The Rochester Amateur Radio Club and the Rochester Repeater Society will sponsor the Rochester Area Hamfest on Saturday, April 4, 1981, at a new location, John Adams Junior High, 1525 NW 31 Street.

Rochester MN. Doors will open at 8:30 am. There will be a large indoor flea market for radio and electronics items, prize raffles, refreshments, and plenty of free parking. Talk-in on 146.22/146.82 (WRØAFT). For further information, contact RARC, WBØYEE, 2253 Nordic Ct. NW, Rochester MN. 55901.

## TCRC WANT ADS

FOR SALE: FT 221R 2M all mode 15 Watt 11XTLS slots plus VFO, sub audible board Mic and shop manual. Ken KBØNU \$400.00 call 463-8616.

*Of all the sad words of tongue or pen, the saddest are these: "It might have been."*

WHITTIER

**90/90 rule of project schedules - The first 90% of the task takes 90% of the time, and the last 10% takes the other 90%.**

### T.C.R.C. MEMBERSHIP APPLICATION

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