

the Repeater

SEPTEMBER/OCTOBER
1980

TWIN CITIES REPEATER Club
Auxiliary



TCRC QUARTERLY MEETING FRIDAY -- OCTOBER 24th



Charter members of the 'APPLE 91' users group, from left to right, standing; Jim KØLCO, Bill NØAME, Ken KBØNU, Charlie NØBIH, Doug NØBIS, Mogens OZ9MD, seated are; Ron KBØBU, Rich NØALK, Jim WNØAKY, Arnie WØEQS, Bill NØBNF, AND Jeff WØONM. Not shown Keith WØTJL.

The 'APPLE 91 USERS GROUP' is now the official name of the group formally known as the Saturday Morning Breakfast group. The name is derived from the brand of micro-computer popular with the members, and of course the 31/91 repeater they all belong to. The group meets every Saturday morning between 8:00AM and 10:30AM at the Apple Valley Lemon Tree Restaurant, located on Cedar Avenue at County Road 42, any and all interested parties are welcome to stop by.

The meetings are informal with no set topic of conversation, although it is generally centered around computer games, technology, and ham radio related uses, such as RTTY. You can also receive help in writing and de-bugging programs, hardware problems, swapping of programs, or anything else dealing with computers or ham radio. Come join us for breakfast.

the Repeater

VOL. 4 ISSUE 3

'The Repeater' is published 8-12 times yearly by the Twin Cities Repeater Club Auxiliary, as the official organ for the Twin Cities Repeater Club, and Squadron 24 of the Happy Flyers. This newsletter is sent to all regular and associate members, student members will receive at least the annual statement edition. The TCRC and Auxiliary are 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 during the July meeting, 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 will also contain the annual financial report. Full membership in the TCRC is \$10.00 yearly, \$5.00 for associate, and \$.50 or more for student. The Club owns or is in the process of buying the repeaters it sponsors.

NEWSLETTER STAFF:

Managing Editor,
Keith D. Kaiser WA0TJT
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Twin Cities Repeater Club (TCRC)
P.O. Box 19225, Mpls. Mn. 55419.

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 Friday of each month, Sept. thru May at the St. Paul Red Cross Bldg. Meeting starts at 7:30PM Refreshments after.

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; W0BE "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. So. Richfield.

Changes or additions to this list should be submitted in writing to Keith WA0TJT, 13700 Thomas Ave. So. Burnsville, Mn. 55337.

Law of selective gravity — An object will fall so as to do the most damage.

JIM/RON NEW TCRC OFFICERS

In a very close contest Jim, WN0AKY and Ron, KB0BU were elected as the new President and Vice-President of the Twin Cities Repeater Club. All ballots post marked on or before Sep. 13 were counted by Charlie, N0BIH and Ken, KB0NU, the official election judges with the help of a non-ham assistant, on Saturday Sep. 20.

I would like to congratulate Jim and Ron on their victories and wish them luck in the year ahead. The next club meeting is scheduled for Oct. 24 all members and would be members are urged to attend. The meeting location, as of this writing, was unknown, when it has been determined the word will be passed via the 31/91 repeater. This would be a good opportunity to meet all the new club officers so please try to attend. See you there. M.E.

Our task now is not to fix the blame for the past, but to fix the course for the future. J.F.K.



SURPLUS

Pete W0WZK Geno KDF6419
3060 Hadley Oakdale, Mn
777-5141 Hrs 10:00 to 3:00

APPLE BITS
by;
Bill, N/BNF

This is the start of a new column which we hope many of you will find of some benefit. We would be happy to have suggestions on topics to cover. We are fortunate to have a wide spectrum of talent within our group from which we can obtain help.

For my own experience I wrote this article on the Apple using the Apple Writer program. It was printed out on a Model 15 Teletype operating off the game port. For our first article I thought the operation of the game port would be good. It is very easy to use the game port as a serial output or input port. The game port has 4 outputs which are called annunciator outputs. The output signal comes from a 74LS259 latch. This gives you output levels of around 0.6 volts for a logic 0 and 3.5 volts for a logic 1. This latch can sink approximately 10 MA. at a logic 0. When you use one of these outputs it is a good idea to use a 7404 or similar IC to buffer the output. When you turn your Apple on these outputs come up in a predetermined state which depends on what boards have been added to the system. Each output has 2 dedicated memory addresses. The first output (ANO) uses addresses \$C058 and \$C059. (note the \$ means the number is in hex). The first address is to turn it off and the second is to turn it on. The rest of the outputs fall in sequence going up to \$C05F. If you want to turn the output on you must reference the second address (\$C059). All that must be done is to put this address on the address bus,

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the data bus is not used. The easiest way to do this from basic is with the poke command (peek would also be used). Poke -16295,0 would say write 0 to location \$C059 and would turn it on. The 0 used could have been any value. The address must be in decimal form and if larger than 32767 (Int Basic will not accept a number larger than 32767) you must subtract the address from 65536 and use the negative of the answer.

There are 3 one bit inputs SW0, SW1 and SW2. They are TTL level inputs so can be grounded for a logic 0 and pulled up to 5 volts for a logic 1. To test the condition of these inputs you would read location \$C061 (peek -16287) thru \$C063 and look at D7 the eighth bit. If this bit is a logic 1 (set) then the input is high. This is what the Ham Program does in the receive mode. The switches on the game paddles come in on SW0 and SW1.

There are 4 analog inputs on the game port also. They are called PLL0 thru PLL3 and the game paddles use the first 2. The game paddles use a 150K Ohm potentiometer connected to 5 volts and wired so the resistance between 5 volts and the input can

CONT. PG. 6



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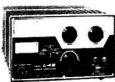
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WINTER STORMS

Part 1

IN SEPTEMBER, the sun leaves the Northern Hemisphere, its perpendicular rays drifting south of the Equator. Until the sun's return in March, polar air rules the northern continental atmosphere, pushing back the tropical warmth of summer. It is autumn, then winter, a season broken by intervals of fine weather, and by the seasonal parade of winter storms—snow-dumping, ice-covering, blood-chilling paralyzers of cities, trappers of travelers, takers of life, destroyers of property.

The storms are generated, as are many of the thunderstorms of summer, from disturbances along the boundary between cold polar and warm tropical air masses. The fronts where air masses of different temperatures and densities wage their perpetual war of instability and equilibrium. The disturbances may become intense low-pressure systems, churning over tens of thousands of square miles in a great counter-clockwise sweep.

In the Pacific, these disturbances form along polar fronts off the east coast of Asia and travel northeastward toward Alaska. But some, particularly those forming along the mid-Pacific polar front, take a more southerly track, striking the United States as far south as southern California.

Few Pacific disturbances cross the Rockies, but some do, redeveloping to the east. One region of such redevelopment lies east of the Colorado Rockies; the storms which come out of that region are called Colorado Cyclones. Another region of storm redevelopment is east of the Canadian Rockies, from which come the so-called Alberta Cyclones. Both types take an eastward path, their most frequent ones converging over the Great Lakes. The Lakes themselves are generators of severe local winter storms, and others develop from northward-drifting disturbances originating over the Gulf of Mexico and our southern plains.

On our east coast, winter storms often form along the Atlantic polar front near the coast of Virginia and the Carolinas and in the general area east of the southern Appalachians. These are the notorious Cape Hatteras storms—nor'easters—which develop to great intensity as they move up the coast, then drift seaward toward Iceland, where they finally decay.

For some parts of the United States—the Northern Rockies, for example—storms with snow followed by cold are a threat from mid-September to mid-May; during one of the colder months from November to March, it is not unusual for eight separate storms to affect some area across the continent. Intense winter storms are frequently accompanied by cold waves, ice or glaze, heavy snow, blizzards, or a combination of these; often, in a single winter storm, precipitation type changes several times as the storm passes. Their common feature is the ability to

completely immobilize large areas and to isolate and kill persons and livestock in their path. In our northland, the severity of these storms makes them a seasonal threat. Farther south, the occasional penetration of severe winter storms into more moderate climates causes severe hardship and great loss of warm-weather crops.

Nearly everyone east of the Pacific coastal ranges remembers significant winter storms—days of heavy snow, interminable blizzard, inconvenience, economic loss, and, sometimes, personal tragedy. Winter brings them all. For Wyoming or Kansas or Texas the blizzard of 1888 was one of the worst on record. The period January 11-13, in that year brought the most disastrous blizzard ever known in Montana, the Dakotas and Minnesota, combining gale winds, blowing snow, and extreme cold into a lethal, destructive push from the Rockies eastward. The eastern seaboard got its big storm the same year. March 11-14, 1888, saw the seaboard from Chesapeake Bay to Maine stricken with a blizzard that dumped an average of 40 inches of snow over southeastern New York and southern New England. The storm killed 200 in New

York City alone; total deaths were over 400.

But probably every winter is a bad year for some portion of the country—and winter storms can kill without breaking climatological records. Their danger is persistent, year to year. From 1936 through 1969, snowstorms caused more than 3,000 deaths, directly and indirectly. Of those reported deaths, more than a third were attributed to automobile and other accidents; just less than one-third to over-exertion, exhaustion, and consequent fatal heart attack; fewer than 400 to exposure and fatal freezing; and the rest to such causes as home fires, carbon monoxide poisoning in stalled cars, falls on slippery walks, electrocution from downed wires, and building collapse. The greatest number of snow-related deaths—351—in this period occurred in 1960; 1958 is second with 345 deaths. About half of those reported occurred in New England, New York, and Pennsylvania.

The National Weather Service, a component of NOAA, the U.S. Commerce Department's National Oceanic and Atmospheric Administration, issues timely warnings against hazards from the air and ocean—hurricanes, tornadoes, severe

MOVE TO BAN CLOSED REPEATERS, LOWER POWER, FAILS

The FCC has denied a petition which requested that "closed" repeaters be banned from the Amateur Radio Service. Closed repeaters are repeaters whose access is limited to stations using tone-bursts, sub-audible tones, or other devices and procedures not generally used by other radio amateurs. Jones P. Talley, WSTJE, of Dallas, Texas, submitted the petition, RM-2844. Mr. Talley said he feels that the Amateur Radio Service should remain open and clear for all properly licensed Amateur Radio operators. He also requested the Commission to decrease the maximum power allowed to repeaters because most repeaters cover more than just a local area, thereby causing interference between repeaters in surrounding areas.

In its statement denying the petition, FCC said it could not agree with a stance "forbidding a station in repeater operation to be closed to anyone. . . . The control operator of the station must be in a position to deny access to any person who is violating our rules." The Commission also reasoned that a more fundamental principle was at stake. "At all times, the control operator of a station is responsible for the proper operation of the station. Open repeaters would militate against that basic operator accountability."

Also, the Commission could not agree with Mr. Talley's proposal that the maximum power levels allowed repeaters be lowered, because "less power may always be used." "In fact, we expect Amateur Radio operators to take appropriate means to avoid interfering with each other's transmissions. Amateur Radio licensees have always been known for self-disciplining and a cooperative spirit in the use of Amateur Radio frequencies. There is no reason to believe that they have relinquished working together to solve mutual usage problems."



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NEXT MEETING *

FRIDAY, NOVEMBER 21, 1980
VIKING VILLAGE SMORGASBORD,
2920 27TH AVE., SO., MINNEAPOLIS
6:30 PM DINNER
7:30 PM PROGRAM WITH ARRL FILM

At the August 22 meeting, some of the main events of the summer, available to Happy Flyers and TCRC members, were reviewed. They were (1) ARRL Field Day at Neill Park, (2) Aquatennial communications, and (3) Oshkosh Fly-In. These activities, and similar, will be features of next summer also. Please let me know if you would be interested in taking part.

FUTURE EVENTS OF INTEREST *

SEPT. 26-28 ; ARRL Dakota Div. Convention, Fargo, North Dakota
SEPT. 26-28 ; Telemark Fly-In, Cable, Wisconsin
SEPT. 28 ; Breakfast Fly-In, 8 AM to 1 PM ; Rice Lake, Wisconsin
OCT. 1-5; EAA Fly-In; Tullahoma, Tennessee
OCT. 3 ; St. Paul Radio Club, 7:30 PM
OCT. 8 ; St. Paul Mobile Radio Club, 7:30 PM

OCT. 16; 3M Amateur Radio Club, 7:30 PM
OCT. 18-19; ARRL S.E.T. (Simulated Emergency)
OCT. 24 ; TCRC Meeting
OCT. 28 - NOV. 1 ; 25th Annual ACPA Convention & Aviation Exhibit, San Diego, California
NOV. 21 ; 3M Amateur Radio Club Annual Banquet, Tartan Park

The movie for the November meeting will give an interesting overview of amateur radio. It is the newest to be released by the ARRL, Amateur Radio Relay League. Aviation films will be used in future meetings.

Mert, W0SBO

SECRET OF SUCCESS

There is an old fable about a dog that boasted of his ability as a runner. One day he chased a rabbit but failed to catch it.

The other dogs ridiculed him, to which he replied smartly:

"Remember, the rabbit was running for his life, and I was running only for the fun of it."

Success in life depends on the motive. If you are in the race for fun or money alone, you will not put the same energy into your running as you will if your ambition is deeper and more serious.

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Mosley

TA-33	3 el beam	10-20 mtr.
TA-33 jr	3 el beam	10-20 mtr.
TA-36	6 el beam	10-20 mtr.
CL-33	3 el beam	10-20 mtr.
CL-36	6 el beam	10-20 mtr.

Wilson

SY-1	System One Tribander
SY-2	System Two Tribander
DB-54	20-15 Duobander
DB-43	15-10 Duobander
DB-33	15-10 Duobander
M-340	3 el on 40 mtrs
M-520	5 el on 20 mtrs
M-420	4 el on 20 mtrs
M-320	3 el on 20 mtrs
M-155	5 el on 15 mtrs
M-154	4 el on 15 mtrs
M-153	3 el on 15 mtrs

Rotors

Wilson TB-50	Thrust Bearing
Wilson WR-500	
Wilson WR-1000	
CDE Ham III	
KLM KR-400	
KLM KR-500	
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Wilson TT-45	Crank up Tower

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ZERO BIAS

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

- Sep 1-Nov 30 Worldwide RTTY Art Contest
Sep 13-14 European DX Contest - Phone
Sep 13-14 ARRL VHF Contest
Sep 13-14 Pennsylvania QSO Party
Sep 13-14 CAN-AM Contest - Phone
Sep 13-15 Washington State QSO Party
Sep 14 North American Sprint
Sep 27 DARC Corona 10-Meter RTTY Contest
Sep 27-28 Delta QSO Party
Sep 27-28 CAN-AM Contest - CW
Sep 27-28 Ex-KZ5 Reunion
Oct 4-5 California QSO Party
Oct 4-5 VK/ZL/Oceania DX Contest - Phone
Oct 11-12 ARRL CD Party
Oct 18-19 ARRL Simulated Emergency Test
Oct 18-19 VK/ZL/Oceania DX Contest - CW
Oct 18-19 Scouting Jamboree
Oct 18-20 QRP October QSO Party
Oct 25-26 CQ Worldwide DX Contest - Phone
Nov 1-2 ARRL Sweepstakes - CW
Nov 8-9 European DX Contest - RTTY
Nov 8-9 IPA Contest
Nov 9 International OK DX Contest
Nov 15 DARC Corona 10-Meter RTTY Contest
Nov 15-16 ARRL Sweepstakes - Phone
Nov 29-30 CQ Worldwide DX Contest - CW
Dec 6-7 ARRL 160-Meter Contest
Dec 13-14 ARRL 10-Meter Contest
Jan 18 FRACAP Worldwide Contest
Mar 7-8 1981 SSTV Contest

DAKOTA DIVISION CONVENTION

The Fargo Repeater Association will sponsor the Dakota Division Convention at West Acres Holiday Inn from Friday, Sep. 26 to Sunday, Sep. 28, 1980.

MRC MEETING

The next Minnesota Repeater Council meeting is tentatively scheduled for Oct. 19, 1980 at a site yet to be determined. Details will be forth coming via the area repeaters.

Here's an idea for a club theme song: "Talk to the animals" by; Dr. Doolittle

T.C.R.C. Membership Application

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TCRC WANT Ads

Free to members; non-members please enclose \$1.00 printing assistance fee. Try to keep to 25 words maximum plus NAME, CALL & PHONE To place an ad contact Keith, WA0TJT at 890-0534 after 6:00 PM.

For Sale:

T.C.R.C. arm patches (see front page) are available by contacting Keith WA0TJT at 890-0584, or on 31/91, cost \$3.00 each, all profits go to the club.

For Sale:

Heath Kit HA-10, 1-KW lin. Amp V.G. cond. \$200.00, Charlie Mills N0BIH 937-8090.

For Sale:

Heath Kit HW-2036, 2-meter XCVR, Micoder, \$150.00, Carl Anderson WB0DFH.

For Sale:

ASR32 TTY unit buildy in terminal unit with CW i.d. and autostart. Call Ron Wright KB0BU, at 435-7762.

For Sale:

The following is a list of surplus equipment owned by the T.C.R.C. Any offer will be accepted for it, I don't even know what most of it is, but here goes. Amperex 6155 tube, real big thing! RCA 130093 Transformer, looks like its from a TV, its never been used.

Bendix Railroad Radio
Bendix Mobile Two-Way Radio
Motorola 2-Way Radio, Type T44A-6A
RCA Super Carfone--Head only. I think????
Several, Motorola Receiver and Transmitter strips, they even work, I guess.
2-Modified Motorola 2-meter FM RCVR's set up for repeater use. These do work.
1-Modified Motorola 2-meter FM XMTR set up for repeater use. This also works, these are the old RCVR and XMTR back up units for the TCRC 31/91 repeater system.
I also have a home brew 2-meter FM XCVR, with a synthesizer made from Motorola RCVR and XMTR strips. I have used this, it comes with a mic. and an AMP, 80 Watts, I think. Should get about \$100.00 for it.

For Sale:

Control Data Display terminal, and Printer, the terminal has a full key board and built in modem. The printer is a thermal model, both work. Keith WA0TJT 890-0584. IT MAY BE THOSE WHO DO MOST, DREAM MOST.

---ONE LAST THOUGHT---

The access code for the autopatch is 4 to 5 seconds of *, then drop your carrier to check for the dial tone, dial your number and when thru clear with 3 to 4 seconds of #. If for some reason you can't clear the patch, just drop your carrier, the activity timer will drop it after 45 to 50 seconds.