

telstar



THE MONTHLY NEWSLETTER OF STARS (SOUTH TOWNS AMATEUR RADIO SOCIETY)

ISSUE 166 JULY 1995

STARS Members Aid in Medical Emergency

STARS members joined with other WNY amateurs to provide communications for the MS 150 Bike Tour on June 24 & 25. The tour went from Chestnut Ridge Park to St. Bonaventure in Olean on Saturday and then returned to the park on Sunday.

After having experienced nothing more serious than a skinned knee, things suddenly changed only seven miles from the finish on Sunday. One of the last riders, who was on Route 240 just south of West Falls, tumbled from her bike, injuring her shoulder. One of the Emergency Medical Technician (EMT) vehicles happened to be near her, and the EMT quickly began providing assistance. The EMT advised the radio operator to call an ambulance, and this message was relayed to net control within about a minute of the fall. A second radio-equipped vehicle with a second EMT and a registered nurse was alerted and was on the site within about five minutes. Shortly thereafter, local fire/rescue personnel and a sheriff's deputy also arrived there to provide assistance and direct traffic. Soon the ambulance arrived, and the rider was transported to the hospital.

We received word later that the rider had broken her collar bone and possibly dislocated



July Meeting

This month's club meeting will begin at 7:00 PM on Thursday, July 6 at the club's Nike Base Club Station, located 1.75 miles east of Route 20 on Lakeview Road next to the Hamburg Town Arena.

We will be covering the Erie County Fair display, the Batavia Hamfest, Field Day, public service events, the repeaters and lots more. It's a great chance for you to visit the club station and see all the changes.



We will have a demonstration of radio direction finding. We invite you to bring your HT's to participate.

Don't forget to bring lawn chairs to sit on since we will be meeting outside. In case of inclement weather, listen to the 147.09 repeater for possible rescheduling of the meeting.

hershoulder. She also had numerous scrapes and bruises. She is now recovering at home.

This was a great example of how amateur radio operators were able to join with other trained volunteers to protect the safety of the riders.



Terry KM4XZ was the Amateur Radio Coordinator for the event. Tony KB2OUT and Mike WA2HEV did a great job serving as net control from Chestnut Ridge Park for both days. Dave K2ECK again provided valuable information from his radio-equipped bike.

Other STARS members assisting included: Gary

★ STARS ★

STARS & ARRL Memberships

Membership in STARS is open to anyone with an interest in amateur radio; an amateur radio license is not required. Membership applications may be obtained by sending a SASE to Frank Modzelewski WG2H, 1818 Clinton Street, Buffalo, NY 14206, from the newsletter editor or from board members.

Annual dues are payable on January 1 and are \$15 for a single membership, \$23 for family memberships and \$8 for a student membership (through grade 12). The dues are pro-rated on a monthly basis for new members plus there is an initiation fee of \$5 when first applying to the club. For example, a new member joining in July would pay \$7.50 (6 months X \$1.25/month) plus the \$5.00 initiation fee for a total of \$12.50.

Applications should be returned to Frank WG2H along with the appropriate dues. The applications will be reviewed and voted on by the Board of Directors at their business meeting. The applications are then voted on by the general membership at the next regular club meeting.

Members should send their ARRL renewal memberships to Jack Cullum, Jr. KB2ESM, 6871 Webster Rd., Orchard Park, NY 14127 along with a check made out to STARS. No extra cost to you and STARS benefits!



Club Nets

STARS club nets are open to all to exchange information on local amateur radio activities.

STARS HF net meets at 10 AM local time on Saturdays on 3.925 Mhz +/- QRM. Net control is usually Guz WB2EZU.

STARS VHF net meets at 7 PM on Wednesdays on STARS club repeater WB2ELW 147.09/.69 (output/input). Net control is Tony KB2OUT.

STARS Swap Net meets at 7 PM on Tuesdays on STARS WB2ELW 147.09 repeater. Net control is Marc N2UBT.

Bike Tour

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Other STARS members assisting included: Gary KB2TDT, Fred KA2EUS, Norm KD2KK, Lee KD2NY, Mike N2YNL, Cheryl KB2REF, Leo KB2TIY (with his wife Terri KB2TRS and their 5 children!), Mark N2TID, Mark N2LAB, Glenn KB2TEA, Kevin KB2TDY, Clare KB2RJB and Bob N2ZTM (membership pending). Other WNY amateurs assisting included: Les KC2JY, Steve N2QJE, Mark KB2RDP, and Paul KB2TPA.

Special thanks go to John Thomas K2XZ for the use of his 145.39 repeater for the event.



Its super coverage allowed communications around the entire course. Thanks also go to Paul Sumski WA2ZMC for helping us to obtain permission to use the repeater.

Thanks also go to Barb Weirich AA2CX and her WEST net for providing us with weather updates throughout the event.

For Sale

Estate Sale of Equipment Owned by Mike Pollutro N2ETH:

ICOM 745 HF Transceiver

Amp Supply Match Box Antenna Tuner Model AT-1200

ICOM Phone Patch

Amp Supply LK500ZB Linear Amplifier

ICOM IC02AT HT

Astron 20 Amp Power Supply

Autek Dual SWR/Power Meter

AEA PK232 Multimode TNC

Trac Electronic Keyer

Heil Loud Speaker

For all above contact Pete at 823-0573.

STARS GOSSIP COLUMN

Well, June sure was a busy month for STARS, what with the mix-up of our VE session. Due to other activities at the Youth Center, we were unable to conduct the FCC exam there, but STARS came through with flying colors and obtained another hall to conduct our session. It was held at the Mason lodge and proved to be adequate for our purpose. Only thing was AA2TL Woody was to conduct the test, and it sure put him on a spot. Having good training from STARS, he was up to the challenge and conducted the test in a very orderly manner.

If that was not enough, the Erie County fair committee asked us if we would like to represent amateur radio at the fair for 1995. Greg KE2VW informed them that it was quite a job;

but, if we were assured that we could do it for other years, we could fox it up to make it easier and more efficient for the up-coming years. They said yes, so the crew is in the process of making it a permanent set-up which will make it more appealing to the public.

By the way, don't forget that June is Field Day, and we will participate in that also. Get in touch with Gene KE2LO for more info on set-up times and skeds. I also will be on the air on our 3.925 at 10:00 am for final info, so please listen, and maybe you can bring some forgotten article to the site on June 24. Remember, the Moose lodge on Church Street.

Happy Hamming Guz WB2EZU

Batavia Hamfest

The Genesee Radio Amateurs, Inc. (GRAM) will hold their 15th Annual Batavia Hamfest at the Firemen's Grounds in Alexander, NY (Route 98 south of Route 20) on Sunday July 9 from 6 AM to 4 PM. There will be indoor exhibits opening up at 8:30 AM. Check-in on 146.52 for a special contest. Talk-in is on the 145.310 repeater.

There will be door prizes including an ICOM IC 737A HF Transceiver with power supply, an ICOM IC 281 2M mobile transceiver, a KAM Plus multi-mode TNC and more. They also will be having their famous Chicken Barbecue starting at 11:00 AM.

Weather permitting, there will be a helium balloon launch with ATV capability at approximately 9:00 AM. There will be an ARRL forum at 10:30 AM, an Automated Packet Reporting System (APRS) at noon, and a boat anchor auction at 2:00 PM.

STARS will have a table at the hamfest to tell people about our club. So stop by to talk and help man the table for a time.



Wednesday Night Net

On the Wednesday Night Informational Net on July 12 beginning at 7:00 PM on 145.090 repeater, Terry KM4XZ will be the Guest Speaker. Terry will try to answer your questions on Radio Direction Finding.

As a demonstration, Terry will be transmitting from an undisclosed location. As people are called to talk on the net, they may pass on information that they have learned from listening to Terry's transmissions on the input of the repeater (147.690 MHz). For example, it you have a beam, you may be able to say "Terry appears to be 120 degrees from my home QTH at ..." If you have a unidirectional antenna, you can say something like "He is full strength by the Peace Bridge," or "I can't hear him at all in Elma". If you want, you can go mobile and try to actually find Terry.



Transmitter Hunt

There will be a hidden transmitter hunt on Saturday, July 1 beginning at Cheektowaga Town Park (on Harlem Rd. between Walden and Genesee). The first transmission will begin at 10:00 AM, so you should be there a little early to get ready.

Repeater Corner

Paul Wendzikowski, WA2UW

Starting this month, Repeater Corner will be a regular feature in the Telstar. Here, I'll let you know what's happening with the club's repeaters and pass along educational information about repeaters for the newcomers to ham radio. I hope you enjoy it. We'll begin with a short primer on how a repeater works, then give you specifics on our 2m machine.

To get a ham license, everyone must know that a repeater is a remote station at a high location using a separate transmitter and receiver on different frequencies. The receiver picks up weak, isolated signals on one frequency (eg. 147.690 MHz), and feeds the audio output through a computerized "controller" into a transmitter that sends those received signals right back out again on a different frequency (eg. 147.090 MHz) over a wider area. What we gain by tying up two frequencies is much greater communications range because of the repeater's good location.

The trick is to keep the repeater's transmitter from interfering with its receiver listening on a frequency only 600 kHz away. Try this sometime with two 2m transceivers—listen to a signal, then have someone nearby transmit on another frequency around 600 kHz away—you'll find your receiver goes dead when the other radio transmits. This is "desense", short for desensitization. It's caused by strong, off-frequency signals getting into your receiver along with the weak signal you're trying to listen to.

To make matters worse, repeaters nowadays use one antenna for transmitting and receiving at the same time. Many hams familiar with dual band (2m & 440 MHz) antennas and radios know we can do this with duplexers, inexpensive frequency-selective filters that block RF energy in the two bands from going where we don't want it to go. We use the same approach with repeaters, but when the frequencies are so close, we must resort to the most selective (high Q) filters we can find to keep the transmitter signal from interfering with the receiver.

(Obviously, the transmitter, receiver, and feedlines must be as close to 100% shielded as possible to prevent RF from getting in/out via unintended paths.)

Such filters are resonant cavities, sections of coaxial transmission line formed from copper or aluminum pipe around 6-8 inches in diameter and 1/4 wavelength (about 19 inches) long. Two cavity filters in series on the receiver input and two cavities on the transmitter output generally do the job by providing 90-100 dB rejection of the interfering frequency. The combination of four cavities, or "cans", is called a duplexer and costs around \$1000.

An additional complication for the STARS 2m repeater, at the Channel 4 TV and WMJQ-FM transmitter site in Colden, is the tens of thousands of watts of RF at 66-72 MHz and 102.5 MHz floating around out there. These signals can directly desense our receiver, or mix in unpredictable combinations at several places to generate new signals which can cause desense and noise interference. Mixing can occur in our receiver (cross-modulation), our transmitter (intermodulation), or in poor connections acting as rectifiers in our antenna system or anywhere else on site. For this reason, our receiver has two additional cavity filters on the input (total four on receive) to help filter out such signals.

There are also 450 MHz telemetry/control signals, microwave video uplink signals, and strong 150-155 MHz paging signals in the area to contend with. With all this potential for interference, it's a wonder the repeater works as well as it does. However, it requires a lot of attention to maintenance, and tracking down problems can be a real headache.

Our trusty 2m repeater is an old workhorse, a GE MastrPro unit, formerly used for commercial service in the late 60's. It has high quality construction, but has tubs in the transmitter, and is getting tough to find parts for because of its age. A GE MastrII unit, a 1970's redesign of the MastrPro, was prepared as a replacement, but has proven troublesome to get working. A

STARS Board of Directors

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Amateur Radio Examinations

STARS will hold a test session at the Buffalo Hamfest. All candidates must be preregistered for this test. For information on STARS test sessions, contact Norm Jones KD2KK at 824-1148.

For information on Lancaster ARC exams, call Chuck Koester WD2AIK at 937-3592.

For information on ARATS exams, call Vern Siegel AA2AC at 693-5977 (days) or 634-5276 (nights).

Lockport ARA (LARA) will hold a test session on July 8, 1995 in Lockport. For information, call Judy Cianchetti at 751-9223.

Most sessions except for STARS non-hamfest exams do not allow walk-ins, so call ahead and make a reservation.

decision will be upcoming this year as to the best path for upgrade of the repeater.

The 2m controller is an Advanced Computer Controls RC-85, purchased in 1987. It's a top notch microprocessor-based unit with many bells and whistles. We have ordered the Version 6 software upgrade, which increases autodial slots from 200 to 500, and will allow digital voice recording capability.

The repeater feeds a Hustler G7 antenna (3 x 5/8 wavelength elements) at 65 feet above ground (approx. 1700 feet above sea level) on a tower adjacent to the main TV tower. Feedline is 120 feet of 7/8 inch hardline. Our duplexer is a TX-RX Systems 4-cavity unit, with two additional TX-RX cavities on the receiver. The receiver also uses a TX-RX 19 dB gain bipolar transistor preamp.

The G7 antenna was recently overhauled, as it was getting corroded in some spots, but is now back in place. It appears to have slightly better close-in coverage than the Diamond X-500HNA dual-band antenna that was used in the interim. There is still some intermittent desense occurring on the repeater, cause unknown, but possibly arising external to our system. The hunt for the source is continuing.

Autodial Slots

Any club member that wants up to 2 autodial slots, or any club member wanting any changes in their slot numbers, I can be contacted either by phone, at 874-6931, or by packet on the STARS KE2VW BBS.

73 and Happy Dialing! Mick N2PZX.

Field Day 95

STARS participated in the biggest contest of the year, Field Day 95, on June 24 & 25.

We will have a complete review of the results in the August newsletter.

WNY Amateur Picnic

There will be a picnic on Aug. 6th at Pinewoods Park in N. Tonawanda for WNY radio amateurs, their families, and anyone interested in becoming a ham.

ARATS is sponsoring this year's picnic. There will be games for kids and areas for horseshoes, basketball, baseball, and bocceball - bring your own equipment.



For more information, contact Larry N2XXF at 873-7927 or Al N2UBW at 695-2540.

Club Tee Shirts

A limited quantity of STARS Club Tee Shirts are available in Large and X-Large sizes on a first-come-first-serve basis for \$10.

See Terry KM4XZ at the club meeting or call 656-0865.



STARS



Club Repeaters

The club repeater (WB2ELW/R) is located near Colden, NY (147.09/.69 output/input). Auto-patch privileges are available to club members.

The southern club repeater (KE2VW/R) is located in Perrysburg, NY (146.97/.37 output/input, with PL access of 151.4 Hz).

The club UHF repeater is located near Hamburg. (442.325 MHz w/ PL of 151.4 Hz.)

Club Packet

The STARS KE2VW BBS is located in Colden, NY. On 145.71 MHz: C KE2VW-5 or BBSVW. On 145.61 MHz, C STARS, then C BBSVW. On 446.825 MHz, you can connect using 9600 baud directly to BBSVW.

Using a telephone modem you can reach the STARS KE2VW BBS by calling 537-9334.

Club Meetings

Club meetings are normally held on the first Thursday of the month at the Hamburg Youth Center (Prospect and Hawkins Aves.) at 7:00 PM. Everyone is welcome; neither club membership nor an amateur radio license is required.

Business meetings are held on the third Thursday of the month at the Nike Base Club Station at 7:30 PM and are open to all club members.

Club HF Stations

The club Nike Base HF Station (WB2ELW) is located on Lakeview Rd. 1.75 miles e. of Rte 20 next to the Hamburg Town Arena. The station is operated on most Saturdays between 1 and 3 PM local time and is a great DX station. All are welcome.

A second club HF station is located at the Hamburg Youth Center.

STARS

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