

# telstar



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

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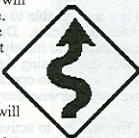
## Amateur Radio Volunteers Needed!

Yes, this winter will finally end and spring and summer are on the way! Now is the time to start thinking about getting outdoors with your radio and helping out some worthy charities. This is a way you can learn more about radio and also have a lot of fun. We are looking for amateur radio operators to help provide communications for two charity bike treks in June.



The first is sponsored by the American Lung Association. It will begin in the Kissing Bridge area on Saturday, June 18 and will ride to an overnight stay at a private camp north of Franklinville. On Sunday they will return to their start point.

The second is the Multiple Sclerosis Society Bike Classic, traditionally one of the largest bike treks in the area. This year they will have an entirely new course. Riders can begin a 100 mile ride on Saturday, June 25 at Darien Lake State Park, or they can choose a 60 mile ride beginning at Chestnut Ridge Park. Both courses will end at St. Bonaventure University for a fun night of partying.



## April Meeting

The April club meeting will begin at 7:00 PM at the Hamburg Youth Center (corner of Prospect and Hawkins Avenues) on Thursday, April 7. All interested in amateur radio are invited; neither club membership nor an amateur radio license is required.

Our program will be An Introduction to Radio Direction Finding. We will have several different types of RDF equipment for you to see: some very basic, some sophisticated, some kits, some commercial units, and even some home brew. We will tell you about hidden transmitter hunts (fox hunts) in the area, and how we hope to have STARS hold some this year, too.



Come on out and join us for an informative and fun meeting!

Most of the riders will then ride 60 miles on Sunday back to Chestnut Ridge Park.

The only requirements are that you need 2 meter equipment and privileges. No prior experience is necessary (but appreciated!). No matter whether you can help out for one day or two, one ride or both, we need you! We will admit that the MS ride is the same weekend as Field Day, but there is no reason that you can't squeeze in both.

To volunteer or for more information on either ride, call Terry KM4XZ at 656-0865 or Tony KB2OUT at 826-7643.

# ★ 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.

## Field Day '94

We are looking for volunteers to help plan and implement our Field Day '94. We need chairmen and workers for each of the HF stations, plus people to set up a VHF/UHF station, a packet station, a Novice/Tech station, a satellite station, message handling, alternative energy sources, etc.



Now is the time to start making plans so this is our best Field Day ever! To volunteer or for information, contact Field Day Chairman John Leitten KA2RFT at 648-0341.

## New FM Satellite

New amateur satellite AO-27 has an FM transponder that is reported to be a real winner. A station in Great Britain reported working VE8DX, who had a full quieting signal running just 3 watts into a ground plane omni-directional antenna.

The uplink is on 145.850 Mhz, +/- some 3 Khz of Doppler shift, and the downlink is 436.800 Mhz +/- some 10 Khz of shift.

If you need the times that it passes WNY and don't have a satellite tracking program, use the satellite server on the STARS KE2VW BBS on packet.

## SAREX

April 7 is the scheduled lift-off date for SAREX flight STS-59, a 9-day mission including Mission Specialist Jay Apt N5QWL and Payload Commander Linda Godwin N5RAX.

They will be able to operate both 2 meter FM voice and packet. During the daytime passes they expect to mainly be using the packet radio robot station using the callsign W5RRR-1. They will try to operate FM voice when they are not otherwise busy and at night.

They will try to activate SAREX about 3 hours into the mission. Check the front page article in your February Telstar for the appropriate frequencies, etc.



## STARS GOSSIP COLUMN

Well, the March meeting was a capacity crowd, what with Randy KA2RFW, Joe KB2JDB and Paul WA2IJW informing us about the theme of Involving Youth in Amateur Radio. Everyone was surprised at the attendance of our youth interested in the Amateur Radio hobby.

Randy KA2RFW has had a room at the Youth Center, and STARS provided antennas and equipment in order that the youths could get some hands on experience of the hobby.

Joe KB2JDB spoke on the interest provided for more input in the schools.

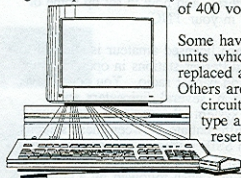
Paul WA2IJW talked about his experiences working with youth both in schools and in Boy Scouts.

It was a very interesting evening!

You know, I had the pleasure to glance through an electrical engineering book, and there was an article about surge protectors which happens to be a very wanted items in most places that use computers and other voltage sensitive

instruments.

There are a few different types, but most of them are for maximum spike currents of 4500 amps, surge dissipation with 35 joules clamping voltage of 400 volts.



Some have soldered in units which have to be replaced after a hit. Others are with a circuit breaker type and can be reset. Others have a lighted power

indicator to inform you if it is still OK.

Hope everyone is taking advantage of the three nets that STARS operates every week.

And by all means, don't forget to check into the BBS and Packet Cluster radio action also.

Happy Hamming Guz WB2EZX

### Erie County Fair

STARS has signed a contract with the Erie County Agricultural Society assuring us of a great spot for an amateur radio exhibit/demonstration at this years Erie County Fair.

This is an exciting chance for us to introduce people to amateur radio in general and to STARS, in particular.

Needless to say, this is going to take a lot of planning and work. Greg KE2VW is our Chairman for the committee and has done a great job getting us approval to do this. We need volunteers now to help him do the preparation work, and we will need a lot of volunteers to man the exhibit during the entire run of the fair.

Those wanting to help should drop Greg a line on packet at the STARS KE2VW BBS or should call him at 537-2830.

### 2 Meter Radio Needed

While we have an old 2 meter radio at our Nike Base HF Club Station, we have found that we need a second one so that we can simultaneous work on packet while we also monitor the STARS repeater.

If you have an old 2 meter radio that you would be willing to donate to the club, please contact Bob Witt WA2IQX at 648-4274.

### 1994 Roster

Included with your newsletter this month is an updated 1994 club roster. If you didn't receive a newsletter this month and don't find your name on the roster, we haven't received your 1994 dues! If you have any changes that need to be made to the roster, please contact Terry KM4XZ at 656-0865 or by writing to him at the address on the back cover of the newsletter.

## "PACKET RACKET"

an introduction to packet radio, part 3

In part two of this series I talked about how to get on the air and make your first QSO. This time we'll be exploring the special "calls" used in packet radio, the use of digital repeaters (called digipeaters), and how to set up some of the commands in your TNC.

**THE SSID:** Each licensed amateur is allowed to have up to 16 different stations in operation at the same time on packet radio. You could have your home station, several digipeaters and a bulletin board system all operating with your callsign! To differentiate between these stations, you use an SSID suffix, a "Secondary Station ID", attached to the end of your callsign. The SSID is shown as a dash followed by a number, 0 through 15. An SSID of -0 is usually not shown, and is not needed, as the call is assumed to be XX2XX-0, when typed/shown as XX2XX.

**DIGIPEATERS:** A digipeater is the term we use to describe a packet radio digital repeater. Unlike voice repeaters, most digipeaters operate on simplex and do not receive and transmit simultaneously. They receive the digital information, temporarily store it and then turn around and retransmit it on the same frequency they received it on. In essence, they are digital simplex repeaters!

Your TNC will allow you to enter up to eight digipeaters in a connect sequence, but using more than 3 usually means long waits and lots of repeated packets.

When entering the list of digipeaters in your connect sequence, you must make sure that you enter them in the exact order that your signal will use them. You must separate the callsigns by commas, WITHOUT any spaces, and the EXACT callsigns must be used, including the SSID, if any. This means you need to know what digipeaters are available, and who they can connect to, BEFORE randomly trying to connect. Turn your MONITOR ON and watch for the paths that other stations are using, or check digipeater listings. Here are some examples of proper entries:

C KE2VW-5 v SOLINK

C KE2VW-5 v KE2VW-3 (same as above, as SOLINK is the alias of KE2VW-3)

C KF2LN v KF2LN-6,KF2LN-2

Something to remember when using digipeaters is the difference between making a connection and sending information packets. If the path isn't all that good, you might be able to get a connect request through, but you will have a difficult time with packets after that. The signal will seem to stall. Your connect request is short so it has much less of a chance of being destroyed by noise or collisions than a packet containing information. Keeping informational packets short can help keep retries down when faced with a path that is less than ideal.

If digipeaters seem awkward to use, and inefficient in passing traffic, **THEY ARE!** Fortunately, we now have nodes to improve the flow of traffic.

**NODES:** Net/Rom and TheNet nodes are a much simpler, and more efficient means of connecting to other packet stations. A complete review of their operation will be covered in a later part of this series.

**TNC PARAMETERS:** The Terminal Node Controller, that "little black box" we talked about in the past, has more than 90 different commands available! You're able to customize your packet operations with these commands, and turn on and off various features. Although not all TNCs are identical in their operation, they all have pretty much the same functions. I will be discussing the commands used by the TNC2 and its clones in my examples.

We covered a few of the commands in a previous article: CONTROL C for entering command mode, MYCALL, MONITOR, CONNECT, and DISCONNECT. Now let's discuss a few that can change the way your station functions.

**ECHO:** This command tells the TNC whether to send what you type back to the monitor screen.

## STARS Board of Directors

President	Terry Rockhold	KM4XZ
Past President	Greg Young	KE2VW
Vice President	Norm Jones	KD2KK
Treasurer	Jack Cullum	KB2ESM
Fin. Sec.	Frank Modzelewski	WG2H
Secretary	Dave Baco	WA2TVT
Director	Vern Siegel	AA2AC
Director	Shane Brady	WB2WPM



## Amateur Radio Examinations

**STARS** will hold test sessions on June 11, 1994 at the Hamburg Youth Center (Prospect and Hawkins Aves.). Walk-ins should arrive by 9:00 AM and pre-registered candidates should arrive by 9:45. The tests start at 10 AM. For information on **STARS** test sessions, contact Norm Jones KD2KK at 824-1148.

Lancaster ARC (LARC) will hold test sessions on April 20, May 18 and June 15, 1994 in Lancaster, NY. For information, call Chuck Koester WD2AIK at 937-3592.

**ARATS** will hold test sessions on April 9, May 7 and June 11, 1994 in N. Tonawanda, NY. For information, call Vern Siegel AA2AC at 693-5977 (days) or 634-5276 (nights).

Lockport ARA (LARA) will hold a test session April 30, 1994 in Lockport, NY. For information, call Judy Cianchetti at 751-9223.

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

If you don't see anything when you type, set **ECHO** to **ON**. If you see **sdoooubblee**, **liikkee thhiiss**, then set **ECHO** to **OFF**.

**CONV** (converse mode): Your TNC will automatically switch to this mode when you connect to someone, but you can also do it by entering **CONV** (CR) at the Cmd: prompt. When in converse mode, anything you type will be transmitted via the path you set with **UNPROTO**. (See the next paragraph). Anyone in a monitoring mode will be able to read what you transmit. Packets in the converse mode are sent only once and are not acknowledged, so there is no guarantee that they'll get through. This mode is used frequently for sending **CQ**'s.

**UNPROTO**: This command designates the path used when in converse mode. The path is often **CQ**, but you can enter a series of digipeaters, or a specific group / club name. Some examples are: **CQ v BLISS,SOLINK SKYWARN v N2GAO-2,KA2RFT-4**. Remember, you have to change **UNPROTO** for use on different frequencies, unless you leave it set to "**CQ**".

**FRACK**: This parameter stands for **F**Rame **A**CKnowledgement. Its function is to determine

how long your TNC will wait for an acknowledgement, before re-sending a packet. It shouldn't be set too short, or you risk collisions with other packets on frequency, yet it shouldn't be too long, or you'll spend too much time waiting. For user ports, a **FRACK** of 6 (seconds) is ideal. You will need to adjust the **FRACK**, if you are using digipeaters, with the following formula:  $FRACK \times (2 \times DR + 1) = \text{adjusted FRACK}$ . **DR** here means the # of digipeaters. For example if the **FRACK** was 6, and you will use 2 **DR**s, the adjusted **FRACK** is:  $6 \times (2 \times 2 + 1) = 30$  (seconds).

**DWAIT**: This "old" parameter, used to avoid collisions, refers to the number of time "units" the TNC will wait after last hearing data on the channel before it transmits. A **DWAIT** of 16 (160 msec) works well. To function effectively, ALL users on a given frequency need to have the same **DWAIT** value. **DWAIT** has been replaced by the **PERSIST/SLOTIME** parameter combination, found in all modern TNCs.

**PACLEN**: Determines the number of characters in your packets, ranging in value from 1 to 256. The more characters you send per packet, the longer it takes to transmit the information and the greater your chances of noise, or collisions from hidden transmitters wiping it out. A **PACLEN** of 64 on a busy channel, which amounts to a little less than one line of type, is a good value. When working a station nearby, on a quieter frequency, or at higher baud rates, **PACLEN** can be increased to 128.

**RETRY**: Your TNC will retransmit a packet if it doesn't receive an acknowledgement from the station you're working. **RETRY** indicates the number of times the TNC will try to get the packet through before giving up and disconnecting. This can be set from 1 to 15, but 10 is customary. Less than that causes an unnecessary disconnects if the channel happens to be busy, while more than that clutters up the frequency.

Try working with these commands. In the next article I'll cover more of these important setup parameters. Thanks to **W1LOU**, **WB9LOZ**, **KB4VOL**, **KO6GGD**, and **KA3RFE** for some of the text for this series.

Until next time, 73, and keep those packets flying!

Greg, KE2VW, SysOp of the  
STARS KE2VW BBS.



# STARS



## Club Repeaters

The club repeater (WB2ELW/R) is located near Colden, NY (147.09/.69 output/input). The repeater is open to all amateurs. Autopatch 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 107.2 Mhz). This also is an open repeater.

## Club Packet

The STARS KE2VW BBS is located in Colden, NY. On 145.71 Mhz: C KE2VW-5 or BBSVW. From the South, on 145.65 Mhz, C BLISS, 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 Hamburg Youth Center 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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Depew, NY 14043  
(716) 656-0865



JOHN CULLUM JR. KB2ESM  
6871 E. WEBSTER  
ORCHARD PARK, NY 14127

Greg KE2VW, 2nd of the STARS KE2VW BBS

FRANK: This parameter stands for FRANK. A/K/A knowledge, the fraction is to determine