THE TARA NEWS

AN ARRL SPECIAL SERVICE CLUB

Affiliate of the American Radio Relay League

Volume 13 | Issue 3 | March 2002

Lone Missing Application Holding Up Vanity System

And then there was one. The FCC indicates that a lone missing paper vanity call sign application filed last October is holding up the resumption of routine vanity processing. Yesterday, the FCC processed 33 vanity applications received last October 23 and 24. Today it plans to run another 41 applications received October 25 and 26. Processing remains stalled beyond that receipt date, however. FCC efforts, assisted by the ARRL, to contact the elusive applicant to have the individual resubmit a vanity application have proven difficult. The FCC appears determined to hold off further processing until the remaining applicant is given an opportunity to resubmit an application and, thus, retain a place in the processing queue. No amateur vanity call signs have been granted since February 1, when applications received at the FCC October 22, 23 and 24 were processed. The FCC later rescinded vanity grants for October 23 and 24, however, after it realized that it needed further information for an October 23 application. Prior to late January, no vanity call signs had been issued since October 30.

The ARRL has estimated that some 2050 vanity applications now are in the FCC's processing pipeline--the majority of them filed electronically. The FCC's policy is to give equal processing weight to paper and electronic applications. Some two weeks' worth of October paper vanity applications apparently were mislaid after mail was sent off last fall for anthrax decontamination.

FCC Wireless Telecommunications Bureau personnel at the FCC's Gettysburg, Pennsylvania, office used information gleaned from payment receipts to contact the known paper filers via e-mail or telephone to have them resubmit copies of their vanity applications. That effort--again with ARRL help--led to this week's vanity processing.

In This Issue

"Runnin of the Green"

Saturday, March 9th. at 10:00 a.m.

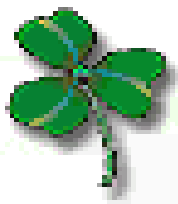
WE NEED YOU

by Karen Smith - KB2UUC 273-6594

On Saturday morning, March 9th, 2002, T.A.R.A. will participate in our first Community Public Service Event of the season. This event is the "Runnin of the Green" held in Green Island.

The race is 4 miles long, and is a very fast race. I am looking for a large amount of volunteers, with or without radios that would like to help out with this event. The race starts at 10 a.m. and should finish by 11 a.m.Then there will be a kiddy run after the main event, running for a few blocks. If by chance, they need to change for a snow date, it will be held on the following Saturday, March 16th, same time and place. Volunteers should meet at the Legnard-Curtin American Legion Post #927 located at 35 Cohoes Avenue at about 9:15 am.

If you have any questions about this event, or if you would like to volunteer to help us out, please contact Karen, KB2UUC at 273-6594 anytime.



Happy St. Patrick's Day!

ARISS packet system to be upgraded soon

Normal packet activity with a real call sign should resume soon on the International Space Station. Amateur Radio on the International Space Station (ARISS) Board Chairman Frank Bauer, KA3HDO, says a new packet module sent up to the ISS last August, will be installed by February 25, 2002.

Since Amateur Radio gear was installed on the ISS in 2000, the packet system--crippled with a dead RAM (random access memory) backup battery--has been operating in digi-peat mode using the NOCALL call sign and other ROM (read-only memory) defaults. Earthbound users have been able to access the system nonetheless, but the lack of a call sign has been an annoyance.

Bauer said the new module, using the call sign RS0ISS, will employ a specially developed ROM programmed with standard ISS defaults, a new battery and an extended memory--up to one megabyte. The TNC also has eight-bit capability to support Russian Cyrillic typesets, and a one-minute timeout disconnect from the PMS if no pertinent packets are heard.

Although the mail box function will be activated, hams are discouraged from using it. "Currently there is no computer hooked up to the packet module," Bauer explained. "In addition, the crew will be much too busy to respond to messages posted there." ARISS packet radio frequencies will remain the same. The uplink is 145.99 MHz, the downlink is 145.80 MHz.

For more information on the new packet hardware and the ARISS equipment, visit the ARISS Web site at, http://ariss.gsfc.nasa.gov/EVAs/amsat01.pdf .


You might be a Digital Ham Radio operator... by NB6Z

...If you introduce your wife as-mywife@home.xyl-
...If you have used coat hangers and duct tape for something other than hanging coats & taping ducts.
...If you window shop at Ham Radio Outlet.
...If your ideal evening consists of flipping through the latest QST mag looking for technical inaccuracies.
...If you spend more time on the internet ICQ than you do on the ham bands.
...If you like to run new software programs before reading the manual.
...If you thought the concoction ET used to phone home with was stupid.
...If your HT has more computing power than your PC.
...If you have ever saved the power cord from a broken appliance....
...If you are old enough to know what an 807 is.
...If the salespeople at Circuit City can't answer any of your questions.
...If you have a habit of destroying things in order to see how they work.
...If the microphone or visual aids at a meeting don't work and you rush up to the front to fix it.
...If you have more friends on the 20 meter band than in real life.
...If you've ever tried to repair a $5.00 radio.
...If your favorite part of the 6 o'clock news is comparing their latest satellite weather picture with yours.
Editor note:..If you drive large Ford Snoot vans or fly model rockets, planes or helicopters or have a cat named Ralph.

A Thank You to My T.A.R.A. Family

Hi Everyone Of MY TARA FAMILY,

If you were not already aware, I was released from Sunnyview Hospital on Tues, February 12th. I am truly happy to be in my own home. I wanted to say THANK YOU to all that kept in contact with me, some by visiting and others by phone or through cards. When I went to Sunnyview there was no light for me shining through that I could look forward to. As many of you know with the loss of Skipper (KE2XF) in December my whole world felt like it was over.

Through the strength of God, Skipper and my Tara Family, everyone pitched in and did what they could to help me through all of the crises I was facing. I knew then that I was not alone. I still have a long road to go, so please keep me in your prayers and thoughts. Should you find yourself a free minute to give me a call, please do.

My phone number is 664-4521.

Skipper and I always tried our best to do whatever we could for our club and you have all shown me that it was well worth it. May God Bless and take care of us all. I miss everyone and hope soon to be able to get on the air more often, but we are always listening. 73"s.

Sincerely, June KA2VEK

The Art of Kit Building

By Michael S. Fisher WT9W

(Published in QRP Hombrewer - Spring 2000 issue Vol. 2, No. 2)

So you say you would like to build an computer interface or any other electronic kit for that matter. But you have very little kit building experience or none at all. The intent of this guide is to give you an overview of the basics that are necessary to successfully complete building a kit.

First, you must have the tools to insure proper construction and to ease the task so that it is an enjoyable experience rather then a chore. In years gone by, building a kit was a way to save a significant amount of money and still wind up with a useful piece of equipment. In today's market, the monetary savings are not as big an incentive as being able to "homebrew" your own equipment. Since the incentive is mostly enjoyment, we want to make the process as painless as possible. For that reason I have included some tools in my recommended list that while they are not essential, they will certainly increase the enjoyment of the project. Listed below is my Suggested List of Tools for Successful Kit Construction: See photo 1.

Variable temp. solder station (700 - 800 deg) like Weller 921ZX (Solder station should be ESD rated-grounded tip)
Small diameter IC grade solder - Kester 62/36/2 - low residue (60/40 rosin core is an acceptable replacement)
Solder sucker (ESD safe)
Desoldering wick
Magnifying visor
Small lighted magnifying glass
Conductive wrist strap
Small diagonal cutters
Small long nose pliers
Small pair of tweezers (90 degree curved tip)
Wire stripping tool
Jewelers screwdrivers
Assorted standard and philips screwdrivers
Assorted plastic alignment tools
PanaVice for holding the circuit boards while working on them
DMM for measuring resistors, capacitors, voltage, etc.
Parts tray - separate parts into groups – resistors, capacitors, potentiometers, etc.

TARA KIT Building Class held at Heatly School in Green Island
(L to R) Ray Ginter, Ken Davis, Ernie Mills

Above are the tools, I most often use. In addition there are some other tools that may be helpful.They are not essential, however, they are worth their weight in gold when you need them. They include several sizes of PanaVice board holders, small vice, tweezers, Kelly clamp, flush wire cutters and a parts tray. They are available in the tools section of most department stores like Kmart or Wal-Mart.

A 15-25 watt soldering iron is a suitable alternative to a solder station. Also, if this is your first kit, you will probably not want to invest a large amount of money (typically over $100) in a soldering station until you determine that you will be building additional kits in the future. The PanaVice is also a non-essential tool, however, it does a wonderful job of holding the boards while you stuff the parts and then solder them in place. See photo 2. The last item mentions using as much light as possible. Identifying small parts is very difficult. I recommend using a magnifying glass to read component values and tolerances. Colors on resistors can easily be mistaken if insufficient light is available. Installing an incorrect part value is a major cause of problems experienced when building kits. Always use sufficient lighting and double check the component value before installing it.

The Art of Soldering

Next, a word about soldering. While soldering is not the most difficult task, your successful completion of a kit does require a certain proficiency in this area. Improper soldering is a major cause of problems when kit building. Cold solder joints, missing solder connections solder bridges, and components damaged by excessive heat are major causes of kits failing to perform properly. Since the art of soldering is a major topic all by itself, I will not attempt to cover it in this guide. An excellent paper on this topic is "THE BASIC SOLDERING GUIDE", written by Alan Winstanley.

The Step by Step Guide to Kit Building

I hope you have decided to give kit building a try. If you do, the first step is to decide which kit to build. Your first kit should be a relatively simple one that is recommended for beginners. There are a number of kit suppliers from which to chose a kit of this type. (continued on Page 4)

The Step by Step Guide to Kit Building {continued)

For a list of kit suppliers you can review the links page on this web site. The kit suppliers are listed in the EQUIPMENT - KITS category. Companies like Kanga US and Ramsey have a number of kits that can be successfully completed by the beginner.

Okay, you decided to give it a try. You picked out a kit, ordered it and it just arrived. What to do next? The first thing to do is to dig out the instructions and read through them very carefully. Also, check to see if the manufacturer has included an errata sheet. Do to the high cost of printing and the many improvements and corrections that are made to the kit designs, kit manufacturers can not reprint the instructions with each change. Instead they provide an errata sheet with the latest corrections and enhancements. Make sure that you mark any changes listed on the errata sheet on your set of instructions so that you don't miss the changes when you are performing that particular step.

The next thing to do is to inventory the parts. You can sort them using the parts tray that was on the list of suggested tools. You want to make sure that you received all of the parts and that they are the proper values. This step will also familiarize you with the parts so that you will be able to recognize the proper ones for each step of the instructions.

Now, a word about ESD (Electrostatic Discharge). Another cause of kit building problems is damage to static sensitive parts. When handling CMOS chips or MOSFET transistors care must be taken so that the device is not damaged by static discharge (ESD). Several precautions that can be taken are:

Use a conductive wrist strap attached to a good ground (listed under suggested tools – also shown in photo 1 laying inside the top of the jewelers screwdriver case)

Use an ESD safe iron or solder station. These tools use static-dissipative materials in their construction to ensure that static does not build up on the iron itself.

Always touch a bare metal-grounded surface (such as the chassis of the kit you are working on) before picking up an ESD sensitive electronic component. This will discharge any static electricity that you have built up.

Use an ESD safe mat to cover your work surface. If the first three precautions are followed, the mat is probably not necessary. I personally do not use one and have not damaged a component when using the conductive wrist strap.

The next step is to actually start construction of the kit. Follow the directions very carefully in the order that they are listed. Most kit manufacturers have a reason for listing the construction steps in a certain order. This really becomes critical in kits that are designed around the build a section test a section concept. With these kits you build a section of the project and then perform some tests that ensure that the section is working properly. Obviously, if you do not follow the proper order of construction, it is very likely that the section to be tested will not perform as described.

Now you will begin to actually "stuff parts" on to the board. I use the following procedure, which has kept me from installing components incorrectly.

1. Identify the part based on the value specified in the instructions and the component markings.
2. Measure the part value with a meter. I use a DMM (Digital Multi-meter) that can measure the value of resistors, capacitors and inductors. When building kits you should have a basic DMM. These will only measure current, voltage and resistance. In this case you will only be able to measure the value of resistors.
3. If you were unable to measure the component value, as described in the previous step, double check that you have selected the correct component.
4. Locate the position that the component is supposed to be installed in.
5. Bend the leads of the component to fit the hole spacing on the circuit board. I use my small long nose pliers to make the bends. With practice you will be able to judge where to hold the component lead to make a bend that will fit the hole spacing in the board. In most cases the components should be mounted as close to the board as possible. This is especially critical in circuits that operate at vhf and uhf frequencies and above, where lead length can contribute to stray capacitance that can affect the performance of the circuit. The instructions will usually give you guidance how the components should be installed. Example: resistors flush on the board, transistors 1/8 inch above the board, etc.
6. Install the component on the board and bend the leads on the bottom of the board to hold it in place.
7. Double check that you have put the component in the proper location.
8. In some cases the instructions will call for installing a number of components (example: 10 resistors) before doing any soldering. It is always best to follow the instructions, however, I will sometimes solder after only stuffing 3 or 4 components on the board, otherwise, it becomes difficult to do the soldering with all of the leads sticking out of the bottom of the board. If you do this you must be careful that the instructions were not having you wait to do the soldering because other components needed to be installed first. This is where reading through the instructions before starting construction really helps. Also, just before soldering a component lead, double check to see how its pad is located with respect to the rest of the board. This will help you detect if you create a solder bridge (unwanted solder between two adjacent pads). (continued Page 5)

The Step by Step Guide to Kit Building (continued)

10. **Solder one lead of a component to the pc board.**
11. **Check the component to make sure it has not moved and is still positioned on the board as described in step 5. If it has moved, you will need to reheat the solder joint while applying pressure to the component to properly position it. The component will get very hot, so you should be careful so you do not burn yourself. If there is a danger of being burned, I will usually apply pressure to the part using a cloth or a folded piece of paper.**
12. **Solder the remaining leads of the component to the pc board.**
13. **Inspect the solder joints. They should look shinny, smooth and rounded without any voids. Double check that no solder bridges were formed.**
14. **Reheat any solder joints that did not look as described in the previous step.**
15. **Clip off the excess lead above the solder joint.**

Always double check the solder joints and make sure you have not caused any solder bridges.

Just a quick comment about holding components in place while soldering. Some components, such as IC's, trimmers, connectors, etc don't stay in place, even if you try to bend their leads. Also, I don't like bending the leads of an IC. For these components I use a piece of tape to hold them in place on the top of the board while I solder one lead on the bottom of the board. Then I check to make sure the component is positioned correctly. If not, I reheat the soldered connection while applying pressure as I described previously in step 10. When the component is positioned properly with one lead soldered in place, I remove the tape and then finish by soldering the other leads.

Once you reach the end of the construction phase you may need to do some circuit adjustments (alignment). The instructions should walk you through this step. If all has gone well you will reach the end of the project and it will be working properly. Many of the kits provide a troubleshooting guide in the event that you experience problems. There is usually a number that you can call to get technical assistance. Some of the kit manufacturers are also providing support via the internet using e-mail and mail bulletin boards (reflectors). This can be very useful for getting quick assistance if you experience problems. If you experience the worst case scenario and the kit will not work, most manufacturers will repair it for an additional fee. This is usually explained in the warranty section of the manual.

You will probably want to install your kit in a nice enclosure. Many of the kits either come with an enclosure or one can be purchased at an additional cost. If you would like to "roll your own", enclosures are available at your local Radio Shack store.

Now one final note about the appearance of the board. Standard rosin core solder leaves a residue after soldering. This usually causes no problems. In fact some of the kit manufacturers advise against trying to clean the boards. Solvents used for cleaning the residue can damage plastic components. This is why I recommended the low residue solder in my list of suggested tools. It leaves very little residue and makes the project look very professional.

I hope this guide will be useful and help you get through that first kit building experience. There really is nothing quite like building your own equipment and experiencing that thrill when you tell the station you have just contacted that the equipment you are using is homebrew!

73, Mike WT9W

ARES/RACES - California Wildfire Emergency

QUICK RESPONSE WAS THE KEY FACTOR IN ARES WILDFIRE RESPONSE

San Diego Section Manager Kent Tiburski, K6FQ, says he was pleased that amateurs in his section were able to activate quickly when wild fires broke out earlier this month. Amateur Radio Emergency Service and Radio Amateur Civil Emergency Service teams from the San Diego Section assisted the American Red Cross and local agencies in responding to the Fallbrook fire.

"I'm really proud that our hams can mobilize so quickly," Tiburski said. Our training has lent itself to this type of response, and our hams have proven they are up to the task."

San Diego Section Emergency Coordinator Dave Doan, KC6YSO, said ARES moved quickly into action February 10 when Section Duty Officer Norm Swanson, KF6GOF, got the call from the American Red Cross. At that point, the fire was threatening homes, evacuations already were under way, and the Red Cross had opened a shelter at Fallbrook High School. Fallbrook EC Randy Jones, KD6UAK, promptly assigned three amateurs to assist at the shelter site.

Swanson also notified ARES Red Cross Communications Coordinator Al Rich, W6WYN, who began mobilizing operators for duty at the Red Cross Emergency Operations Center. The Red Cross Mobile Command Vehicle (MCV), with Don Bain, N6CEO, and Jim Coons, N6LWL, aboard, soon was on its way to Fallbrook. Communication was maintained with the shelter at Fallbrook High School through the evening of February 10. Driven by winds gusting to more than 65 MPH, the fire destroyed more than 40 homes as well as 17 other structures, Doan reported. Among the 22 vehicles lost were two fire engines. More than 1000 firefighters battled the blaze.

The following day, the winds had died down and the fire had moved into the Marine Corps base at Camp Pendleton. Swanson was dispatched to the shelter, and the MCV was moved to the Red Cross Service Center at the Fallbrook Boys' and Girls' Club, to support damage assessment communications. Several amateurs pitched in to help with that task.

Doan thanked the Palomar Amateur Radio Club on behalf of the San Diego ARES team for the use of the club's W6NWG 146.730 and 147.130 MHz repeaters

ARRL FIELD DAY, AFFILIATED CLUB COMPETITION CHANGES ANNOUNCED

The ARRL has adopted rule changes affecting Field Day and the ARRL Affiliated Club Competition program. The primary Field Day change--effective with this year's event June 22-23--phases out the Novice-Technician station and replaces it with a new station category, the "Get-On-The-Air"--or GOTA--station.

A GOTA station is intended for operation, by Novice and Technician operators or by generally inexperienced or inactive amateurs as well as by as-yet-unlicensed or "under-licensed" operators working under the privileges of a licensed control operator (third-party traffic rules apply--see the International Third Party Traffic page on the ARRL Web site <http://www.arrl.org/FandES/field/regulations/io/3rdparty.html>). Under the revised rules, any Class A Field Day entry operating at least two transmitters may include a GOTA station, which will not count as an additional transmitter for the purpose of entry category.

The GOTA station may operate on any Field Day band and mode, but only one GOTA transmitter may be in use at any given time. The GOTA station may complete up to 400 QSO's to be counted toward the group's total Field Day score. A Field Day group can claim 100 bonus points if its GOTA station successfully completes 400 QSOs. The GOTA station does not affect the additional VHF/UHF station provided under Field Day rule 4.1.2.

Field Day 2002 will mark the first in which stations throughout the Americas have been invited to participate. As approved at the July 2001 ARRL Board of Directors' meeting, all International Amateur Radio Union Region 2 countries--North and South America--may take part in Field Day starting this June.

Complete Field Day rules and information packet will be available on the ARRL Web Contest Forms and Rules page http://www.arrl.org/contests/forms in early February. Field Day 2002 pins and T-shirt may be ordered now via the ARRL Web catalog http://www.arrl.org/catalog/?category=&words=Field+Day+Pin . Changes to the ARRL Affiliated Club Competition program also were included in the report of the Membership Services Committee (MSC), presented to the ARRL Board of Directors at its January meeting. In accordance with the advice of the ARRL Contest Advisory Committee, five specific affiliated club competition changes will go into effect November 1. Under the revised rules:

* The requirement that a member must attend at least two club meetings a year in order to be allowed to submit a score for a club in the unlimited and medium categories has been altered. The new rules will allow participation by "a member in good standing, as defined by the club."
* Medium and unlimited clubs now may define their club service area either as a 175-mile radius circle or as an entire ARRL section. This change will allow clubs from larger states that encompass entire ARRL sections to compete with each other.
* The percentage of operators who must be members of a club in order for the club to claim a score from a multioperator station has been reduced from 66% to 50%.
* A station owner no longer must be a member of a club in order for a guest operator at the station to claim the score for that club.
* Canadian clubs that are full Radio Amateurs of Canada affiliates now may participate in the ARRL Affiliated Clubs Competition.

These changes affect ARRL contests that include a club competition--January VHF Sweepstakes, the ARRL International DX Contest, the September VHF Party, the ARRL November Sweepstakes, the ARRL 160-Meter Contest and the ARRL 10-Meter Contest.

Complete rules for all ARRL-sponsored operating events are available on the ARRL Web site http://www.arrl.org/contests/announcements/ . For more information, contact ARRL Contest Branch Manager Dan Henderson, N1ND, n1nd@arrl.org

Next Meeting: Tuesday, March 19, 2002 at 7:30 PM- Green Island Municipal Center

Guest Speaker- Randy Stein, KA2TJZ

PALM PILOT APPLICATIONS FOR AMATEUR RADIO

YES GANG - It is ROCKET SCIENCE ! **For those of you who missed the presentation on Amateur Rocketry by Ed Eades-KC2HNC at the February TARA Meeting, You missed a superb and exceptional presentation on this hobby. Thanks Ed, for a fantastic Guest Speaker Presentation.**

EDITORS NOTE: ***For those of you that get the TARA NEWSLETTER via Snail Mail, The ALL COLOR Edition is available at*** **WWW.N2TY.ORG. If you would prefer your newsletter Via the WEB, Please e-mail me at** KB2KFV@AOL.com **that you wish to be put on the NEWS notification list. The advantage is that you get it in COLOR and at least a week earlier.**

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Next Meeting: March19,2002

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