



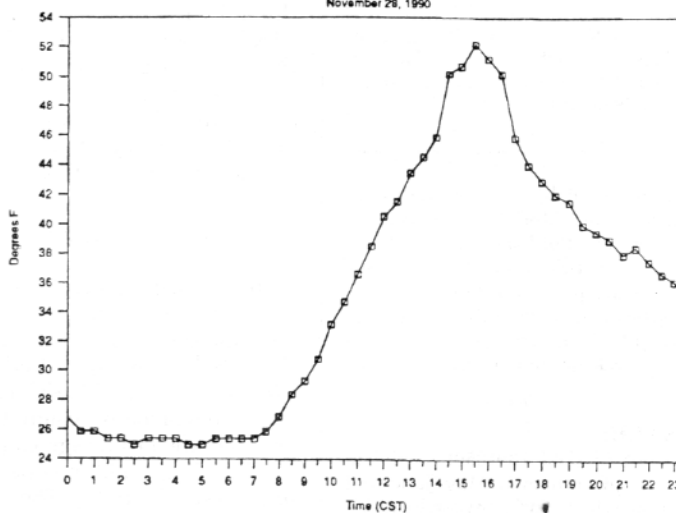
Luciano, I5FLN & RTTY = ZA1A

Story page 16

Track Temperature via Packet

Story page 20

Lawrence, KS Temperatures
November 28, 1990



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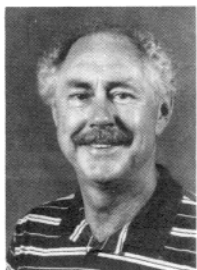
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Hits & Misses

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1956

In this year an RTTY Callbook was published by the RTTY Journal and it contained names and callsigns of those who were active. A total of 1148 were listed from the U.S. and 31 foreign. In thumbing through the pages, I found some familiar callsigns of Hams who are still active. From North Dakota I found the name of William Snyder, W0LNS, for one. If I'm not mistaken this is Bill Snyder, W0LHS, who writes for Worldradio magazine and at one time wrote for the RTTY Journal. Then there was George Boyd, W9SPT, very active with the Chicago group and who is still active as WB6INV in Los Angeles.

Some were famous, such as: Philip Catona, W2JAV, author of the famous "Twin Cities TU", Byron Kretzman, W2JTP, author of "The New RTTY Handbook", Wayne Green W2NSD, 73 magazine publisher. Herbert Hoover Jr., W6ZH, still a subscriber, Robert Weitbrecht, W9TCJ, later to become W6NRM a very famous builder of TUs who wrote many articles for the RTTY Journal, and Art Collins, W0CXX, founder of Collins Radio. I'm sure there are others that I missed as I skimmed the pages of this neat little callbook. If you are interested and would like a copy, contact "Red" Wilson, W0ESF, his ad is in the Classified section of this issue.

1963

In the January issue there appeared the beginning article of a series on one of the most famous TUs. It was the Mainline and the article was submitted by Irv Hoff, W6FFC, formerly K8DKC. This TU was the for-runner of many designs that eventually ended in the last design called "Mainliner TTL II." There still may be some of these units in service today. They had outstanding filters and the circuitry will still stand up against some of today's TUs. We lost Irv this past year, unfortunately.

That same year in March, Bob Weitbrecht, W6NRM, ex-W9TCJ, submitted an article on his new "Mark IV" TU. It was a novel unit in that, it had a pull out drawer for changing shifts. If you were printing 850 Hz shift then you used the 850 drawer. It also had a built-in tuning scope that used a 2AP1 CRT. This was also an excellent unit

and I know of one that is still in use here in the Los Angeles area.

A QSL dupe from Dhahran, Saudi Arabia, HZ1AB, graced the cover of the September cover with operators W1TYQ, K3PUS, W8GCN. A FG7XT QSL card from Guadeloupe et Dependances was featured on the cover of the November issue. RTTY was world wide even then and RTTY DXpeditions were beginning to happen.

ARRL DIGITAL SURVEY

In the last issue I mentioned, I had heard a rumor that only about 200 surveys were returned to the ARRL. It turned out to be just that, a rumor. Being re-appointed to the Digital Committee, I can tell you there were many more returned. I have in my possession over 450 copies of those that were received by February 24, 1992. I feel really good about getting these copies and even though it will mean a lot of reading, I assure you, I will read them all.

The Digital Committee has been re-formed and now has a new agenda and some new members. The new agenda will be focusing on present day operational and legislative issues. On the top of the list is the ARRL survey that must be addressed. As most you may know the FCC has granted one last extension of the STA program for Unattended Automatic Operation on HF. So it is imperative that this issue be resolved at committee level and recommendations forwarded to the ARRL Board of Directors. Members of the committee are: Chairman - Ed Juge, W5TOO, Board Liaison - Tom Comstock, N5TC, Staff Liaison - Rick Palm, K1CE, and Members: Craig McCartney, WA8DRZ, Paul Newland, AD7I, Bob Poirier, K0DJ, Victor Poor, W5SMM, and myself.

We have a big job ahead of us and whatever the solution we recommend to the Board, I hope the rank and file will support it, abide by it, and help us promulgate it. However, it is entirely possible our recommendations may be unpopular with some but rest assured, I for one, will do my best to be fair to all concerned. By looking at the names of those on this committee, the ARRL has chose an excellent group to represent you, the end user. Be patient, be with us, and above all, wish us luck. de Dale, W6IWO



PACKET

Richard Polivka, N6NKO
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LET'S GET WILD!

How many of you have programmed in "C"? For anyone who has had the opportunity to do so, they should be familiar with one of the most powerful attributes of the language, the pointer. For the uninitiated, pointers are variables that are used to point to locations in memory. Their versatility is phenomenal. Because of this versatility, they can get you into trouble very quickly. If a program is going crazy and trashing everything, the program may have what is called a "wild pointer." The "wild pointer" is a C programmers nightmare to track down.

Last month, I mentioned that I was tackling a minor rewrite to PA0GRI's NOS code. Well, my attempts to do so ended up with several wild pointers and wild is an understatement. Evidently, Turbo C 2.0 and Turbo C++ 2.0 working in the Turbo C mode, process pointer conversions differently. I have a feeling that Turbo C++ 2.0 is less lenient than the other package. I do not have the time or the disk space (another story ... price went up) to pursue the rewrite, so I put the project on the back burner.

In place of that, I have started another project that is up and running. I will be releasing the software to the public once I get it settled down. Right now it is suffering with a wild pointer problem that is intermittent (sounds like fun, doesn't it?).

LET'S GET CONNECTED

By now, your TNC should be receiving packets just fine. Connecting to a station is easy. Make sure that the TNC is in command mode. You should see a "cmd:" prompt next to the cursor. If not, hit a control-C. That should give you the command prompt. The best way to do this is to have a friend that lives close to you get on the same channel. At the command prompt, type "c" followed by a space and the call of your friend's TNC, then hit return. If all is fine, your TNC should go into transmit mode when the channel is clear and connect you to the other station. When the connection process is complete, should see a display that says something on the order

of "*** CONNECTED TO N6NKO-3" or the like with N6NKO-3 replaced by the call sign that you connected to. If the procedure does not work out, and the TNC says something like "Too many retries - disconnected", it is quite possible that either something is out of adjustment or one of the stations is not hearing the other. Packet channels can be a nightmare when they are busy. Try your test on another channel, such as voice simplex channel. Don't stay on the frequency too long or some intolerant soul will come on frequency saying something unbecoming. If I know that someone is testing something new, I can cut them some slack. I know that whenever I have tried out new items, other people have cut me slack.

If you find that you still can't get a connect, it is time for some sleuthing. Now comes the role playing of that master detective, Sherlock Ohms. Get on the phone with your friend and start with how well your signals sound to each other. If one signal has some white noise on it, that can cause a problem. White noise means that the signal is not full quieting and the noise can mix with the tones causing bad data to be received and subsequently rejected. Several other reasons for bad packets can be attributed to multipath or intermod. I have a problem here with occasional BROADBAND interference. It is not the result of corona discharge from the power lines but from some electronic device that I still have not been able to isolate. Multipath is the great destroyer of packet reception. If there is enough delay between the direct and reflected signals, nothing will be received because of tone corruption.

If the signals sound fine and there is no apparent distortion, the next procedure is a bit more convoluted but it will take care of the majority of the transmit side problems. First off, a TNC has an adjustable delay to allow the transmitter to key up and stabilize before sending data. This is called TXDELAY. This value is in milliseconds. This process, will apply to both TNC's. At the command prompt, type "txdelay 200" and hit return. This will allow for a 200 millisecond keyup delay before sending data. Both stations should have MON set to ON. The next process is to put one station into "UI" mode. This

allows a sending station to put out a packet onto the air and not expect a handshake back. This is usually done by typing "conv" or "k" at the command prompt and hitting return. Now anything that is typed on the keyboard will be sent out over the air in a packet. Monitor the screen while your friend sends you packets. If you are seeing them on your screen, then his transmit and your receive are working just fine. To exit UI mode, hit control-C. Now try the other station in UI mode and see if the packets can be decoded. If not, then the cause will have to be tracked down. It could range from transmitter over or under modulation, not enough receive volume for the TNC, or a signal that is not at full quieting. You will have to track the cause on your own.

The biggest purpose for packet can also be the biggest pain in the gluteus maximus. The packet has to be 100% accurate or it will not work. Sometimes the quest for perfection can be its' own drawback too. I know that when I set up the station here at the new residence, I was having a devil of a time. I managed to solve the problems facing me and am now on the air intermittently. If you still are having problems getting on the air, call on someone who has some experience with packet and maybe they can solve the problem. Let him or her know what you have done and what you are experiencing. It works the same way as going to the doctor. The phrase "I hurt" is not as descriptive as "I hurt behind the left knee when I walk up the stairs." Honesty pays off in time. When a person is working on the system, ask questions about what is being done at the time. That is how one learns as to what is going on.

Once the problems are solved, write down the settings for the radio and TNC. This way, if a problem does come up, you will be able to see if all of the settings are where they should be.

Simple connects are easy when the connect is from station to station, directly. If you want to talk to a station that is out of your range and there is an intermediate station that hears both you, the intermediate station will make the connect possible.

The intermediate station can take either

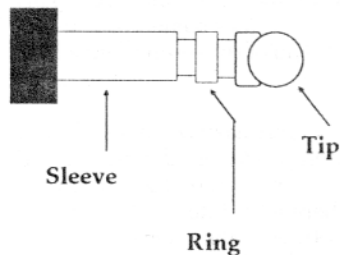
one of two forms. One form is called a Digipeater and the other form is called a Node. Just about every TNC out there that I know of is capable of being a digipeater. The digipeater operation was designed to help send information past simplex range. With regular packet operation between two stations within simplex range of each other, the signals are direct and the handshaking takes place between them with no interruption. A digipeater acts like a loudmouth with very little brains. A sending station sends a packet to a digipeater when the channel is clear. The digipeater will resend the packet when the channel is clear again. Hopefully, the receiving station will hear the digipeater and send back a response to the digipeater to loudmouth back to the sending station. The digipeater takes no active role in saying I heard the packet and the packet was sent correctly. That responsibility falls on the two stations using the digipeater. If a channel is busy, digipeater users usually experience a slow-down in throughput because of the chance of more non-handshaked transmissions. This lack of accountability, so to speak, was addressed with the Node.

If you want to use a digipeater to connect to a station, there is a difference in the command line when you make the connect. In the case of my PK-232, I would type "c n6ihq via n6zzz" at the command prompt. Heaven help me if I wanted to use more than one digipeater in the connect. If that was the case, the command line would say "c n6ihq via n6zzz,w6aaa." In the just mentioned case, I now have presented three possible areas for collision. Nodes take care of the collision problem to a great extent. I will discuss node operation next month.

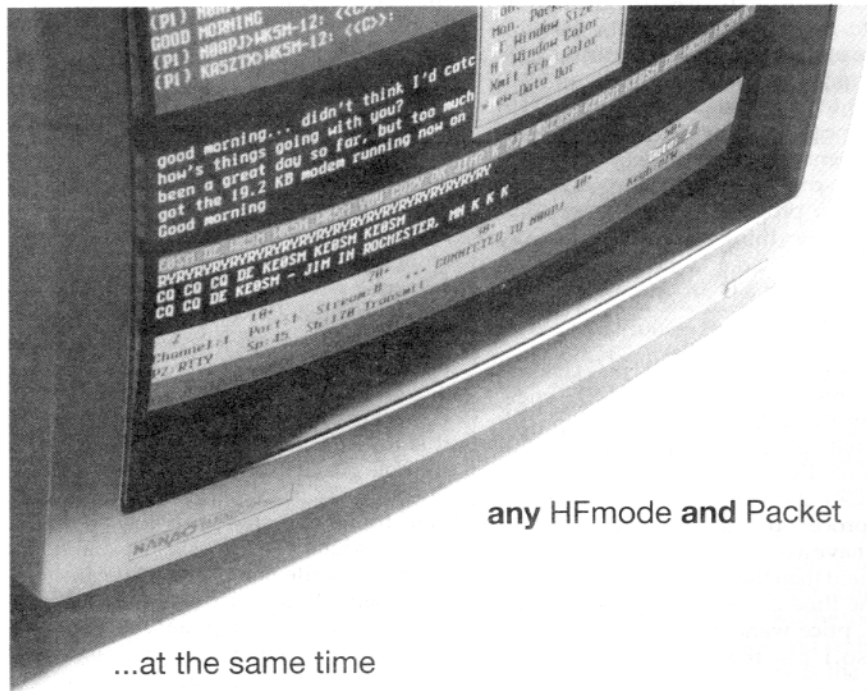
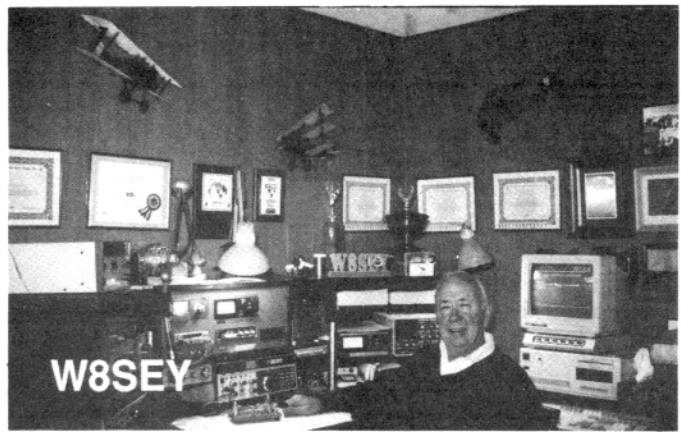
LAST MONTH . . .

Last month, I was to have included in the article a picture of a plug, for your information. Well, due to a computer problem (right...), I could not get the plug drawing to the editor. Well, here it is this month. Third time is the charm. Have fun this month

de Richard, N6NKO ■



Wayne Roe, W8SEY
 Kalamazoo, MI
 Equipment list
 Ten Tec Omni V
 Ten Tec Titan Amp
 Tandy 3000
 AEA PK -232
 TH7DX

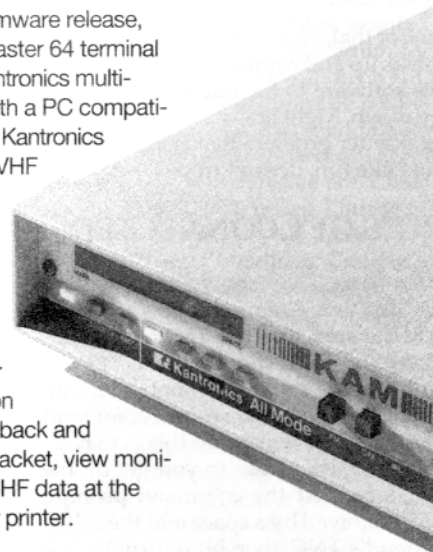


any HFmode and Packet

...at the same time

The new Kantronics version 5.0 firmware release, the Hostmaster II-Plus and Hostmaster 64 terminal software upgrades expand the Kantronics multi-mode single keyboard system. With a PC compatible or Commodore 64 computer, a Kantronics All Mode (KAM 5.0), your own HF/VHF transceivers and a few keystrokes, you can work any mode on HF and packet on VHF at the same time.

Now with KAM version 5.0 firmware, you can operate CW, RTTY, ASCII, FEC, ARQ, packet or copy NAVTEX on HF and packet on VHF/UHF simultaneously. Toggle back and forth between any HF mode and packet, view monitored and connected packets and HF data at the same time, and output text to your printer.



The Hostmaster/KAM combination . . . the next step in the state of the art from Kantronics.

**Kantronics 1202 E. 23rd St., Lawrence, KS 66046
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SOFTWARE

Jim Mortensen, N2HOS
65 Holly Place
Briarcliff Manor, NY 10510

THE OPTIMIST

December computer magazines reveal both their editorial leadership and fallibility by selecting a wide range of "products-of-the-year." Few differences exist among the several magazines' lists, so let's recap but one. Of the "23 Most Valuable Products Of 1991" heralded on the cover, sixteen were hardware developments, three were upgrades (spreadsheet, data-base and word processor), two related to the operating system and one was a new utility. No mention, repeat none, was made of a new application, a program designed to do something for the user instead of the computer. No new ground was broken, again. Nor has it been for a long, long time.

Fortunately, despite the editor's selections, new and genuinely hard working software comes along now and then. Chances are these applications arrive without the fanfare of a Windows. They gain acceptance slowly, more deliberately than a well defined innovation like a spreadsheet. Most lack a revolutionary dimension. But there are gems out there that deserve your consideration. Some require a bit of effort but are worth it because of their potential in our world of digital communications.

CHANGE YOUR WAY OF THINKING

Info-Select¹ fits this description. Now in version 2.0, I noticed it over a year ago when it replaced a product called Tornado. The concept appealed to me because it promised to be an unstructured random information filing system...and I generate a lot and it needs managing! I-S sounded like more than a pop-up memo pad. The ad said, "Welcome to Info-Select: a new type of PC software that can change the way you work and think every day." I believed. I ordered.

I struggled. In truth, I-S cannot "change the way you work," unless you first change the way you work. Then I-S can be a valuable asset in almost every part of your daily routine regardless of your platform.

I plunged into these new opportunities on the 386 machine only to find that there was no water in the pool. I-S really doesn't like

Windows at first exposure, or vice versa. DesQview came next. This marriage made in heaven quickly wound up in the divorce court. DV isn't overly fond of TSRs either. I-S drifted to the back burner.

STICK WITH IT

If it doesn't work under Windows or DesQview, what redeeming traits does this product have? Let me count the ways. Once I discovered where and how it works, I-S revealed itself as a powerful application indeed. Each day brings another discovery and it has now become a full-fledged special assistant.

I-S does work under Windows. It took some discovery time to figure out how best to use it, just as it took me months to accept Windows (with Norton) as an acceptable platform for my 386 notebook. Most of my writing is done on this little machine. I-S at first nestled under my word processor along with three other memory programs. I would click the icon on the Norton Desk Top and the batch file delivered the package of products in a full window. But that was a bit awkward so I tried again to put it on my laptop. Voila! Just drag the IS.EXE from the C: drive to the window of your choice. I-S now sits there next to the DOS programs ready for action. A mouse click and up comes a full window. Type C(lear) and you are back at the desk top. I can minimize an Excel window, open I-S and get a phone number in a flash.

In this mode, I use the product as a note pad, outline, reminder, planner, phone book, etc. Type a note, put **2/21 anywhere in the text, and the note will be at the top of the stack and highlighted on that date. Mark a note I(mportant) and it will stay visible atop the stack in windows until you T(hrow) it or remove the marker. Type G(et) and the first two or three letters of a name and within a wee part of second the business card will pop on the screen. I keep a working outline of the next five to eight articles that are due. Subjects are added, subtracted or edited at any time. I could go on for several pages, but you get the idea. It is a remarkable filing machine with virtually unlimited capacity.

The product also performs perfectly on the

other computer, not under but alongside DesQview (no Windows yet on the "radio" 386). Don't go through the regular "Add A Window" procedure. Press the ALT key, type BD. A new screen pops up and you are at the DOS prompt in the DV directory. Get to the IS directory and launch it by typing IS. Better yet, use the "Learn" function of DV to do the entire thing with one key stroke. Either way I-S is there in a full window, two key clicks away.

BUILD A BETTER MOUSETRAP

Look now at the world. The product serves a multitude of purposes for me. It replaces all of the sticky notes that used to clutter up the desk and the rig. Have a sked? Paste a note, on the screen. Need an APlink frequency for K4CJX? Type G(et) and K4 and all of his scanned frequencies pop on the screen. Do you need the country that just popped up on the DX Cluster screen? Type G(et) and then DX and the list of needed countries is there.

Moving from one full screen window to another in DesQview is as simple as typing ALT ALT. If you are in QSO on AMTOR and need information from the adjoining screen, hit that key twice, move over and pick it up in less than a couple of seconds. Snap back to your QSO with the same two strokes.

Such flexibility and speed led to the development of my favorite feature. I created a new Stack called "LOG." When needed I switch to I-S, type D(isk), L(oad) and then L(og). Once in the LOG stack (LOG appears on the lower left of the screen), type F(orm) L and the log window pops up. The date and time (GMT) are automatically inserted. Type in the callsign, name, etc., moving from one blank to another with the TAB key. I imbed a 599 both ways on RST, RTTY for MODE, but it can be changed if you think it appropriate. The last item in the window is COMMENT. Type to your heart's content (well, 32000 characters is the limit!).

Building the log form is straightforward. First create a new stack called LOG, a simple procedure that begins under D(isk). In constructing the log template use @D for

date and @T for time. Switch your computer's time to GMT in the A(djust) mode of I-S. Place a <> after each item that requires an entry, for example CALL. This log moves so fast that I switch windows, call up a new window and fill in the call-sign while the other station types his pointless RYRYRYRYRs.

Now print one of the windows and discover pure WYSIWYG! Sure it is a simple word processor. But the design of forms also becomes a trivial task. Do you want to lay out your log so that it prints to a label that goes on your QSL card? Simple, if you wish to set up your printer for labels. For the more ambitious, designing a QSL card complete with lines and boxes would be a great way to spend a Sunday afternoon. Send me a copy of your best effort and I will pass the good news on to others.

This modestly priced program is well worth your time and effort. The manual and product rate about an 8.5 on a ten point scale.

ARRL CONTEST

Two days after sending in February's column I received a note from Dennis, N0TV. Though he had to work most of that weekend, he wanted to pass along his comments about Aries-2. In summary, "Aries-2 is wonderful for everyday use with a lot of features I do use. For contests, it is marginal...guess I am still looking for something better." He finds it necessary to keep a backup log on paper or another computer, "after getting burned once before." But he likes the dupe check, pulling the calls off the screen with the mouse and the direct reading of the frequency into the log (he uses a TS940). "Getting the logs ready is a bit of a chore, though. They can be prepared using DBASE but it requires some manipulation on files and adding in the points column."

Thanks Dennis and I am glad the mail finally made it from Grand Forks.

QQSL

An unsolicited package arrived a few weeks ago containing a single-minded program so good it went into regular use the first day. And I sent in my registration check the next day (it is my policy to buy any software sent to me if I put in on my hard disk for my use). QQSL is a product written by Bill Mullin, AA4M/6. (The share ware fee is \$24.95) Bills' program does QSL card labels, nothing more nothing less. But very well indeed!

I spent fifteen minutes with the documents, then went right to work on the stack of two hundred cards recently arrived from the Bureau (well, not too recently...besides there were a batch of SWL cards). The in-

tuitive menu makes the process as painless as possible. After inserting your registration number, configure the menu with your call sign, personalize lines four and five and away you go. It is really that simple. On my desktop, one click of the mouse puts me into the program and at the point of typing in the call sign. One more click prints the whole file.

Print them out twenty at a time on "two-up" sheets using your laser or dot matrix. My HP IIP needed no alignment. It did need someone who could put the labels in face down. Hi! It is a great product and we will examine it in more detail soon. In the meantime if any of you are using it, please let me hear from you.

PTERM

Not to be outdone, Clark, W9CD, sent me the latest of PTERM. He described it as a "simple" program. It is a single-minded, yet elegant solution to the HAL PCI-3000 software dilemma. PTERM delivers a big type-ahead buffer, easy mode and instant TX/RX switching as well as ten message buffers. Place any ASCII file in one of those buffers and then transmit it with the stroke of a function key. PTLOG saves all transmitted and received text and is accessed by a key stroke through the Norton Editor (which you must supply).

These features make this product seriously better than the software provided with the

HAL board. This program will also be investigated more thoroughly in a future column. But if you can't wait get a copy yourself. Clark will be happy to send it to you. So will I. Just send a disk and SASE. If you have a PCI-3000, do it now. The switch-over is easy. I have already changed.

These two programs score a ten on the "3X5" hard core evaluation test. Both answer an unqualified yes to the question; "Can I put all of the basic commands on a 3X5 card and read it at a distance of one yard?" Communications software must pass this test for there is no time to consult a manual or detailed crib sheet when in a contest or a live QSO and certainly not in a heated pile-up. As with our transceivers, where unnecessary features have packed the front panel with buttons too small for the human hand, rarely used "bells and whistles" now clutter most of our software. And the boasting about the features overwhelms the manual in those sections that should be devoted to the "ABCs" of operation. This complexity impedes functionality and the user is the loser. Let's hear it for minimalism!

Hope you have made your reservations for Dayton, including the RTTY Dinner.

73 de Jim, N2HOS, APlink 14.067 MHz 1300Z-0300Z; then 7073.5 MHz. Call me!

I-S is a product of Micro Logic corp. POB 174, 100 Second St., Hackensack, NJ 07602

STA UPDATE

I have received numerous requests over the past year asking for the listing of STA approved operators. In the February 1992 issue of QEX the ARRL published this list. It was also mentioned in the article that the FCC had extended the STA program until January 3, 1993. The FCC indicated this would be the last extension of the STA program. As we all know the ARRL Digital Survey is an effort to resolve this issue.

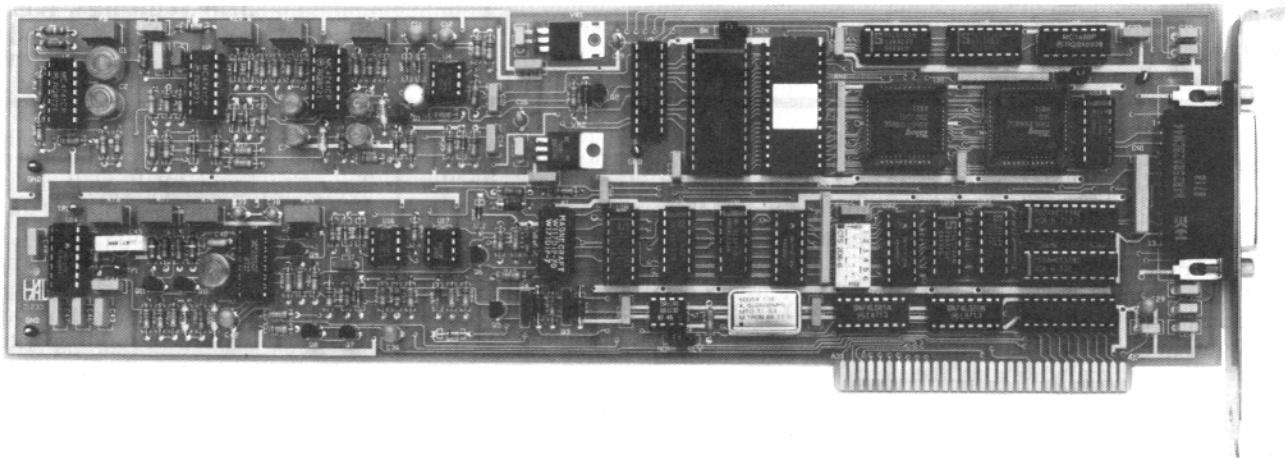
Herein is the listing of those stations authorized by the ARRL to operate under the STA program as reported in QEX.

AA2S, AA4TM, AA6TN, AD8I, AG3F, AJ6F, AL7IN, K0BOY, K0HOA, K0KBY, K1UGM, K2AAA, K4EID, K4NTA, K4TKU, K7PYK, K8MMO, KA1ZT, KA4OJN, KB1PJ, KB3X, KB5PM, KB6GOZ, KC0QJ, KC2TN, KC7CG, KD4EQ, KD5SL, KD6SQ, KD7XG, KD9WH, KE7CZ, KE7VS, KH6WY, KI0Q, KI4FL, KI4XO,

KJ6EO, KJ8C, KK4CQ, KK4L, KK4WR, KK9G, KL7IEJ, KL7JDR, KN5D, KP2N, KR5S, N0AN, N0HMF, N1BBT, N1CWP, N1DCS, N1DL, N1DRS, N4HOG, N4JS, N4QQ, N4RT, N4XI, N5AAA, N5OK, N6EEG, N6VV, N6YN, N7GXP, NA2B, NC5R, NI6A, NJ4S, NL7NC, NX0R, W0LJF, W0LVJ, W0RLI, W0XK, W1HAB, W1ZLG, W2HPM, W2JUP, W2TKU, W3IWI, W4DPH, W4SDL, W5TOO, W5XO, W7LUS, W8AKF, W9ZBD, W9ZRX, WA0CQG, WA1LRL, WA1WLV, WA2SPL, WA4EWV, WA4PHY, WA4SZK, WA4VMV, WA5DVV, WA5MWD, WA5QZI, WA7ARI, WA8BXN, WB0TAX, WB1DSW, WB4FAY, WB4GHL, WB5FWE, WB6IKS, WB6KAJ, WB7DCH, WB8CQV, WB9OWN, WB9TPG, WB9TYT, WD0HEB, WD4ANY, WD4NUN, WD4PPF, WD5B, WD9DHI, WD9EBQ, WN4IIV, WQ0P, WV4B, AND WY5J.

de Dale, W6IWO

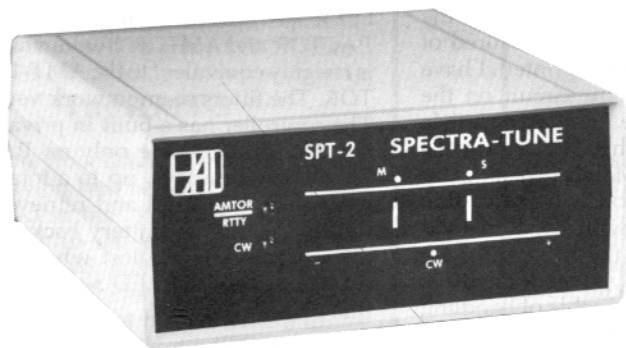
A Winning Combination . . . The PCI-3000 and SPT-2 from HAL!



The HAL PCI-3000/PC-AMTOR system is designed to put your PC on the HF bands with outstanding performance at an affordable price. Amtor allows you to get through when other methods fail. If you've ever been DX-ing with someone on Amtor when 20 meters dies out in the evening, you know what we mean. Things may slow down, but you can usually keep up the QSO!

The PCI-3000 doesn't limit you to Amtor. You also get high-performance Baudot and ASCII RTTY, CW, and Search Mode. Search Mode lets you simply tune in the signal—we take it from there. The PCI-3000 automatically finds the correct code, speed, and polarity. No more guessing!

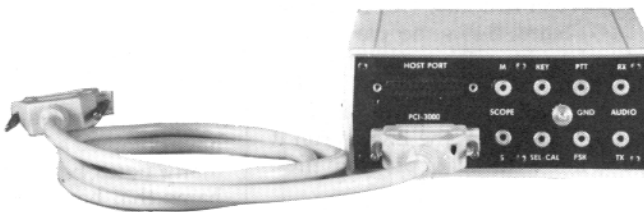
If you want to communicate on HF, do it right with the PCI-3000! Call HAL Communications—your AMTOR source—and put your PC on the air today!



SPT-2 Spectra-Tune:

For ease of tuning your PCI-3000, add the SPT-2 Spectra-Tune. The Spectra-Tune lets you tune in CW and RTTY signals quickly and accurately with a calibrated linear 30-segment bar graph. The bar graph represents a 600 Hz range of the audio spectrum, centered at 2210 Hz for RTTY and AMTOR, and 800 Hz for CW. Calibrated marks indicate the proper frequency for AMTOR, RTTY, and CW tuning.

A cable is included with the SPT-2 for providing power and control from the PCI-3000. The rear panel of the SPT-2 provides convenient "RCA" phono connectors for all radio connections. This avoids having to make radio connections directly to the PCI-3000. Enhance your PCI-3000 system with the SPT-2 Spectra-Tune Today!



HAL Communications Corp.
P.O. Box 365
Urbana, IL 61801
Phone (217) 367-7373
FAX (217) 367-1701

PCI-3000/PC-AMTOR with software **\$395.**
SPT-2 Spectra-Tune with cable **\$169.**
FIL-1 Amtor/RTTY filter (installs in SPT-2) **\$69.**

(Low tone export models available.)



THE LINK

Jim Jennings, KESHE
Rt. 2, Box 165E
Hearne, TX 77859

APLINK Update

Vic, W5SMM, has just finished new releases of APLINK (v6.02) and PAMS (v2.0). These versions now support the full extended ASCII character set between cooperating stations. That is, if you have the new PAMS you may link to an APLINK and transfer files using any key on the keyboard to send any printing character. We all thank Vic for the very hard work he has done to keep this fine software up-to-date and more. APLINK is now leading the way in digital mailbox type of operations.

In order to use the new software, you must have one of the following 3 controllers:

- 1. PK-232 with ROMs dated July 1991 or later.
- 2. HAL PCI-3000 with ROM v 1.7C.
- 3. AMT-1 with ROM v 07A.

If you need the ROMs for either the HAL or AMT-1, drop me a note. I have the code and can burn the ROMs for you. I also have permission from HAL and Peter Martinez to make copies for you. I ask \$9 for the AMT-1 and \$13 for the HAL to cover my costs involved. We all appreciate the effort that both HAL and Peter Martinez have put in to make all these things possible. You may obtain the PK-232 ROMs from AEA.

APLINK and PAMS are now being distributed by three methods. The APLINK and PAMS files are separate and each must be downloaded. There is a free landline bbs at 512-690-5312 (San Antonio, TX). It accepts 1200 to 9600 baud, 8-bits, no parity, one stop pulse. Log in with your name and follow the instructions. Download the file named APFILES.EXE or PAMFILES.EXE using XMODEM. When the EXE is run it will expand into a full set of program files.

If you have access to Compuserve (CIS), the latest version may be downloaded from the Hamnet forum.

A disk with all the APLINK/PAMS files may be obtained by mail from TAPR. Send \$2.00 US for a 5-1/4 inch disk or \$3.00 US for 3-1/2 disk plus cost of postage if outside of North America and specify that you want an APLINK/PAMS disk. If you re-

quest, TAPR will automatically send you an update when it is received with the understanding that you will mail them the costs when you receive the disk.

Tucson Amateur Packet Radio (TAPR)
PO BOX 12925
Tucson, AZ 85732 USA
TAPR Telephone: 602-749-9479

The format for the APLINK.DIR put out by Craig, WA8DRZ has changed. It is getting so long that he has put them into 5 separate directories. One each for USA-EAST, USA-WEST, AMERICAS, ASIA/OCEANIA, and AFRICA/EUROPE. These directories are available on most APLINK MBOs or directly from WA8DRZ in San Francisco.

Corrections to Last Month's Column

Last month I wrote a note about a circuit to provide the level conversion necessary to connect radios with computers and I notice that several errors cropped up. First, there was only 1 circuit diagram. I sent 3 to the publisher so that he would be assured of one good one and all 3 got printed. I have tested and have used the circuit on the ICOM and it works fine. I noticed an article in March 1992 CQ which has practically the same circuit. See CQ, March 1992, p. 42 by Paul Brown, NF2B. You will notice that inverters are needed with the Kenwood line. Paul only shows the RXD and TXD line being handled, but as I mentioned last month the MAX232 is capable of handling the RTS and CTS lines also. You will probably need inverters on those lines if they are added.

More on PACTOR

Well, I took the leap and since last month I have obtained a PACTOR controller. After many notes back and forth with several hams that have been using the box and after having received a note from Dr. Thomas Rink, DL2FAK, I sent a cashiers check to Tom and about a week later I had my kit. First, let me say that the kit is of the highest quality. It comes complete, except for a relay for the PTT line. As supplied the controller will key a PTT line using a built in transistor switch.

I started construction one morning and had it running by nightfall, so it can't be too difficult. It is simply a matter of finding all the holes that those parts go into. The circuit board is silk screened to indicate parts placement. The parts list identifies each part. In typical kit construction fashion, I stuffed all the resistors and capacitors first and then the bigger parts. There is a note in the manual on page 18 suggesting an additional 0.1 MFD capacitor. You definitely need a small pencil iron and a magnifying glass, especially if you are as old as I, HI. You get all the parts and two very nicely made printed circuit boards. I only had one hitch, be sure to lay the two resistor arrays on the display board down against the board before soldering.

After two days of playing with my new toy, and delaying the writing of this column, I feel that I can safely offer a few comments. First the PTC (PACTOR controller) is a very small box, 1-5/8 x 4 x 6-3/4 inches. It works PACTOR, AMTOR, and BAUDOT RTTY. I have not used it in the RTTY mode, but it seems to perform very well in both PACTOR and AMTOR. I would say that it is roughly equivalent to the AMT-1 on AMTOR. The filters seem to work very good. The controller has a built in private mailbox that is accessible only on PACTOR. Thirty one messages, up to a total of 20k bytes, may be stored and retrieved. The unit has a lithium battery backup, so no data/parameters are lost when power is off. It has the best LED tuning indicator that I have ever used.

On AMTOR the unit may be set to use the UPPER/lower case convention now used by APLINK and the PLX mailboxes. The mode is backward compatible with units not handling that scheme. I have found only two points about the PTC that have caused me slight problems. First, the unit uses the low tones (1200/1400 Hz). My IC-751A will not accommodate the low tones in the RTTY position. I got around that by using AFSK. But when I run AFSK, I have to use the LSB mode and then can't get at my narrow filters. Also, I find that RFI problems are much worse with AFSK. I understand that a modification will be available shortly to change the unit to high tones (2100/2300 Hz). I could get around all of this by taking my TS-450SAT out of my truck and using it. That rig will do all

of the things needed. The FSK situation is a little different. Since PACTOR uses 200 Hz shift, you would be set to that shift on AMTOR and RTTY if you used FSK, and that is not desirable. I notice that the new AEA DSP-2232 handles the change in shift by using AFSK. So I guess we just need to learn how to live with AFSK.

I was not able to use the 12 volt power source from the rig to power the PTC. But I am still working on that problem. I don't know if that is RFI or regulation. With the transmitter going on and off, I suspect that the PTC prefers a more stable power source. Anyway a cube in the wall works fine. I found that I needed to make a simple three wire cable going from the PTC to the computer. The English manual with the kit tells you how to do that with no problem. I will try to have more on PACTOR next month. As I said earlier, Vic tells me he will write an APLINK driver for the controller. That will be nice.

PACTOR MAILBOX

There is one PACTOR/AMTOR mailbox running using the PTC. It is operated by Bill, W8KCCQ in Worthington, OH. He scans 3645, 7071, 7073.5, 10139.5, 14079, 14080, 18107.5, and 21075 MARK. His MBO accepts mail for storage, he has no forwarding. After linking on AMTOR type W8KCCQ QRA (your call) CR. For help, type HELP CR. Check into Bill's MBO and leave me a message. The message data base is available to both PACTOR and AMTOR users.

The AMT-3

I got a note from David Speltz, KB1PJ, this month saying that he will be distributing the AMT-3 in the USA and should have some units in early March. While the APLINK/PAMS software does not support that controller as yet, David is sending a unit to Vic so that he can write a driver for it. My guess is that it will be ready by early summer.

The AMT-3 is the successor to the AMT-1 and AMT-2 designed by the inventor of AMTOR, Peter Martinez, G3PLX. It runs both AMTOR and RTTY. Some features are: frequency analyzer type of tuning indicator, host mode computer control, comprehensive status display, nonvolatile configuration and selcal storage, front end filter optimized for AMTOR and RTTY, wall or desk mounting, and can be used as an unattended mail drop. The box comes with computer software split screen, message memories, pop up menus and other niceties. It is a small box also, 1 X 5 1/4 X 6 1/4 inches. It is in the \$300 price class.

David can be reached at:

David Speltz
9 Heather Lane
Amherst, NH 03031
(603) 672-0175 (weekends)
(617) 646-3302 (work)

More APLINK Station Descriptions

- **TG9VT, John, Guatemala**

I ran across an interesting note from John in my files that he sent last Christmas. He was at his farm in Guatemala about 75 miles from his home as I recall. At this second station he uses the IC-751, Alpha 78, PC with PCI-3000 and a TH-6 at 80 ft. He says that he can control the home box pretty well on 15 Mtrs from that point in the mountains. He says that it is one of the most beautiful places he has ever been. Overlooking a 15 X 15 mile lake surrounded by volcanos at an elevation of 8000 ft. He said he had a nice Xmas, but hadn't eaten the sucking pig yet. Hi! His call at the second location is TG4VT.

- **W7DCR, Gary, La Pine, OR.**

Gary has been on APLINK for some time. He runs a TS-940S and uses the HAL PCI-3000. His antenna is a 554 ft. horizontal loop tuned by an SGC tuner. His Packet port feeds an MSYS BBS system on a separate computer. Both systems use a 286 PC with 40 meg hard drive.

- **KK4CQ, Harvey, Pensacola, FL.**

Harvey has a system running APLINK, BPQ, and RLI BBS under DesQview on a 386SX with 4 meg RAM. His HF radio is a TS-440S scanning 12 frequencies. He runs the PK-232 and in addition has 5 ports on VHF. His antennae are a 4 band vertical and a 3 element beam at 55 ft. Harvey is a long time face on the APLINK scene.

That's it for now, see you in Dayton.

73 and God bless de **Jim, KE5HE AT KE5HE.TX.USA.NA**



QSL Routes

These Qsl routes were gleaned from the WS7I/PacketCluster but, for the most part, come from the DX1 reports. A special thanks to John, TG9VT, for sharing a huge list of routes. For the latest most accurate Qsl routes I still suggest the W6GO/K6HHD list. No cards have been received from TI9YO given route. I would suggest that a note to the operator TI2YO is in order and perhaps logs and a real manager can be setup. Rumor has it that only one card for this operation has been seen.

73 and 88, de **Betsy, WV7Y**

A45ZX, Box 123, Muscat Of Oman
A92DQ, Box 33716, Isatown, Bahrain
A92FG, Box 11134 Manama Bahrain
AH0/AA5K, Qsl Via JH4WEE
AP/WA2WYR, Qsl Via KK6TX
C9RTC, Qsl Via IK4QIZ
EM3W, Qsl Via WB2RAJ

FJ5BL, Qsl Via F6AJA
J37ZY, Qsl Via NS8G
KP1/KW2P, Qsl Via N0TG
HC8K, Qsl Via HC5K
HI8AX, Qsl Via JA2PLT
NH0/K8CC, Qsl Via K8CC
OX3EY, Qsl Via WB4HUL
PJ9BT, Qsl Via W1AX
S79PDL, Box 448, Victoria, Seychelles
ST0DX, Qsl Via WA2NHA
SV0DV/9, Qsl Via WB4TDB
T30NY, Qsl Box 80, Meguro, Tokyo, Japan
TA5C, Qsl Via Box 73 Gar Apana Turkey
TJ1MR, Qsl Via F6FNU
V21GI, Qsl Via I0WDX
VK9XM, Qsl Via W5BOS
VP2V/KB5GL, Qsl Via KB5GL
VQ9SS, Qsl Via N6SS
VP8CFM, Qsl Via GM4KLO
WH0/WD3D, Qsl Via JF2KOZ
XX9AX, Qsl Via N6LVY
Z21HJ, BOX HG 395, HILANDS, HARARE.
ZIMBABWE
ZA1TAA, Box 66 Tirana
3C1EA, Qsl Via EA4CJA
4X6UO, Qsl Via WB3CQN
5H3OH, Qsl Via OH2BAA
5V7JG, Qsl Via F6AJA
5N8ALE, Qsl Via DJ2VZ
7P8SR, Box 333, Maseru 100, Leshoto
7Q7BW, Qsl Via N5MHZ
7Q7MM, Qsl Via N4RFN
7Z2AB, Qsl Via AA0BC
9K2TC, Box 25281 Safat Kuwait
9K2ZZ, Qsl Via W8CNL
9Q5TE, Qsl Via SM0BFJ



MSOs

Dick Uhrmacher, K0VKH
212 48th St.
Rapid City, SD 57702

Hi Gang! I must be living right. My lovely (and industrious) XYL won an all expense paid trip to Disney World, and believe it or not, she's taking me along! So, in great anticipation of Mickey, Minnie, Goofy and Pluto, I need to get this article in the mail, poste haste. I hope everyone completed the ARRL survey on "unattended digital" operations, and I for one am anxiously awaiting the results. I hope that our friends in Newington are a bit more prompt in publishing the results of this survey, than they have been in assimilating, evaluating and publishing the results of the now infamous HF Packet special temporary, (ad infinitum) authorization testing project. Can you believe four years? It didn't take that long to develop, test and build the atomic bomb! Come on Newington, quit pandering to a special few and call a spade a spade.

COOLING OF "OFF THE SHELF" AMATEUR RADIO EQUIPMENT USED IN DIGITAL SERVICE

Last month's "MSO Column" dealt mainly with cooling of transmitters with glass tube final amplifiers. I hope that I didn't leave the impression that tubes such as the 6146 were inferior, or not suited for use in the digital modes, because quite the contrary is true. When properly ventilated and cooled, the 6146 is a true work-horse, and will provide literally years of service without difficulty.

Solid state amplifiers are a whole new ball game. They are, in my opinion, much more suited to service in the various digital modes, for a variety of reasons. Probably foremost is the fact that most final amplifier stages in the more recent variations of ham radio equipment are attached to man-sized heat sinks, specifically engineered to absorb large quantities of heat generated by these devices. It isn't that you can't over-heat these solid state devices, but the inherent design of modern day amplifier stages makes it much less likely. Secondly, the "big three" (Kenwood, ICOM and YAESU) manufacturers have finally realized that thermal considerations were very essential as a marketing strategy. Let's face it, the digital modes, (RTTY, AMTOR, HF Packet, high speed CW, etc.), have in the past ten years become very popular with a large segment of the ham radio fraternity. And,

older equipment variations were widely disparaged by digital enthusiasts, particularly when smoke filled the ham shack after a long transmission. But manufacturers have finally realized that their equipment was being subjected to long, hot digital transmissions, and have engineered more recent variations to include adequate final amplifier cooling.

A good example of this thermal engineering is the Kenwood TS-940/950S model series. (I pick this equipment only because I can speak more factually about it, and I'm sure that this applies to recent versions of other equipment lines as well). Both of these transceivers can be utilized at the 100 watt output level continuously, almost without regard to final amplifier thermal considerations. The entire rear portion of these transceivers is heat sink, and a thermally controlled fan is included, should the heat sink temperature rise above some predetermined level. One can confidently use either of these transceivers on RTTY, AMTOR, APLINK, PAMS, HF Packet, high speed CW, etc., and not have to worry about final amplifier over-heating, with one exception. High circulating RF, (caused mainly by high SWR, and some inherent antenna designs), can cause undue final amplifier heating. In most cases the transceiver is protected by a "high SWR monitor" circuit, which limits final amplifier RF output based upon a comparison of forward power to reflected power. However, unnecessary heating of any electronic device is unwarranted, and these conditions should always be avoided when possible. Prune that antenna!

Secondly, the power supply portion of the referenced transceivers is also cooled by a thermally activated fan system. Since low voltages are utilized with the solid state devices, large current flow is required. Watts are watts, and heat is a by-product. The "pass transistors" in these power supplies are required to handle large amounts of power, and consequently must be adequately cooled. Kenwood, (as well as other manufacturers), has included a cooling system, that when maintained properly, is thoroughly adequate in keeping the power supply cool.

Unfortunately however, the Kenwood system, (particularly the TS-940S), has a very poorly engineered, and cheaply built,

power supply fan motor, which has caused several TS-940s with which I am familiar, to develop catastrophic power supply failure. Basically the problem extends from the lack of a proper lubricating system for the fan. No method, short of removing the fan and allowing a small amount of light weight oil to dribble down the fan motor shaft, is available to the end user to lubricate this fan motor. (The final amplifier heat sink fan does not suffer from this same problem.) TS-940S owners must frequently, (at least once every six months if the transceiver is used on a frequent basis), remove the fan motor, and lubricate it with very light machine oil. To avoid this responsibility risks premature failure of the pass transistors in the power supply, along with associated components. Most repair bills I have seen are in the \$200.00 range, all for the lack of a suitable fan motor. Heat is the primary agent causing failure of most all electronic components, and amateur radio operators particularly should take into account the requirement to adequately cool equipment, especially when utilizing this equipment in a mode that generates long transmissions, with attendant heat problems.

Jay Roman, KB0ATQ, (MSO Sysop on the National Autostart Frequency), solved the TS-940S power supply fan motor lubrication problem by removing the fan motor and fan assembly. With a small amount of hardware modification, he replaced this fan with a 12VDC computer power supply fan, wired directly to 12 volts within the transceiver, which allows continuous fan operation. This solution is inexpensive, yet does the job.

Unfortunately this inadequate fan assembly has been carried over by Kenwood into their "Heavy Duty" 12VDC Power supply, Model PS-50. Although fully capable of being utilized on the various digital modes at full transceiver output levels, excessive power supply heating, and premature catastrophic failure will occur, should this fan assembly not operate properly. Again, for continued reliability, the fan assembly must be removed from the power supply case, and a small amount of machine oil allowed to dribble down the motor shaft. Someone out there that has access to a better quality 12VDC motor, preferably one with ball bearings, and oil ports, should experiment with replacing this totally inadequate fan motor. How about it?

I don't think that I've ever heard the heat sink fan on my TS-440S in operation. Either the heat sink is engineered very conservatively, and more than adequately dissipates final amplifier heat, or the fan is super quiet, and not audible when running. I use the TS-440S mainly on AMTOR, (and as a backup to the TS-830S in MSO service), and the duty cycle is approximately 50 percent that of a standard RTTY transceiver. However, in the case of both

the TS-440S and its companion PS-50 Power Supply, I have installed whisper fans to aid in cooling. They are positioned so as to draw air over the units heat sink assemblies, and they remain cool to the touch, even after long AMTOR sessions.

Secondary heat radiation from the RF deck must also be taken into account on older transceivers. For example, I use a Kenwood TS-830S as my MSO transceiver, and it does get quite a work-out. Long RTTY transmissions are its diet, and it does remarkably well. However, even with the built-in fan in the RF deck, (a cage arrangement), long RTTY transmissions cause the radiation of heat to other components outside of the RF deck. Although this heat radiation is not sufficient to cause component failure, it does have a deleterious effect on nearby frequency determining components. Consequently I have installed a quiet whisper fan above and immediately in front of the RF deck, which exhausts air through the top of the cabinet. This "installation" is more adequately defined as, "I set the fan on top of the cabinet, and plugged it in." You can barely hear it run, and the TS-830S runs very cool. The ambient temperature in the room appears to be fairly stable, and this greatly enhances the frequency stability of the transceiver. Without a source of moving air, the frequent fluctuations of temperature caused by RF amplifier heating, most certainly will cause some difficulties in maintaining transceiver frequency stability.

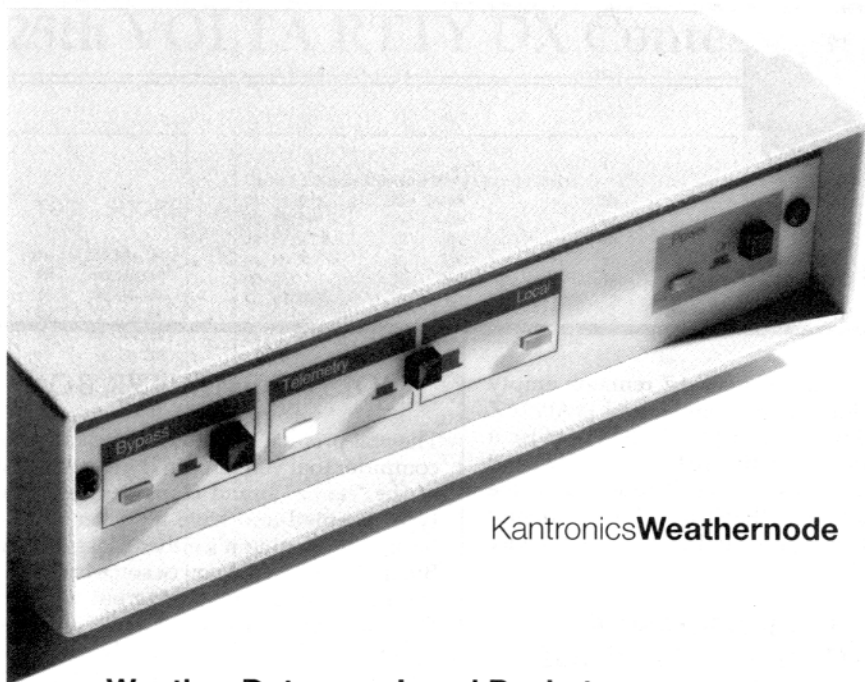
Next month I hope to describe a few techniques for improving frequency stability, and for accurately determining your frequency. My experience tends to show that each transceiver series has its own peculiarities, and a lot of "cut and try" has to be employed before stability is achieved.

MSO RAMBLINGS

Good news department! I've just recently been advised that John Troost, TG9VT, (our venerable DX Editor), has been feeling much better, and that he may be able to attend this years Dayton HAMVENTION. Keep up the good work John, and I hope to see you there!

Bad news department! Al Kaiser, N1API, MSO Sysop on the National Autostart Frequency, recently had an unfortunate fall at work, and has a badly broken arm. Typing with "one hand" is not his forte, and he has temporarily closed down his MSO system. Hopefully Al will be back in good health soon, and we'll look forward to seeing his MSO back up and running soon.

That's it for this month Gang! Have fun, and I'll see you on the digital bands soon. Drop me a note on your way of keeping things running around the shack. I'd like to hear from you! —73— de Dick, K0VKH



Kantronics Weathernode

Weather Data over Local Packet . . .

Imagine gathering tables of local weather data for several months, right at your own packet station computer. You can do this when you or a friend installs a Kantronics Weathernode.

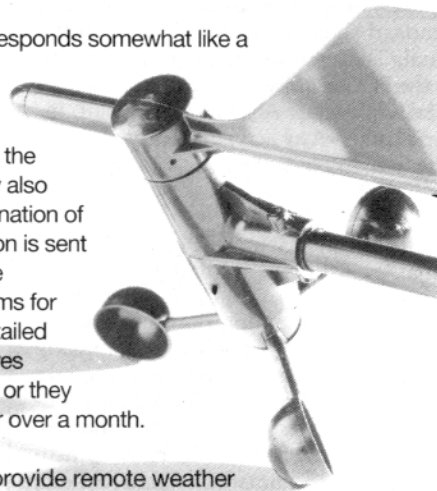
The Weathernode is not a TNC. It is a data gathering device that attaches to your TNC and station computer. The internal program is set to gather data from several types of sensors: internal and external temperature, wind speed, wind direction and rainfall. The temperature sensors come with the unit. The anemometer, for wind measurements, and the rainfall gauge are optional and are available from your favorite dealer or the factory.

If you are the SYSOP for the Weathernode, you'll have control over how often the sensors are sampled and stored, and you'll be able to change your preferences remotely, by password.

If you are a user, a Weathernode responds somewhat like a packet BBS. You may connect to the node, get a listing of commands, and then indicate what you would like dumped from the Weathernode's memory. You may also specify a range of time and combination of sensors. The requested information is sent back in tabular form which may be imported into spreadsheet programs for graphing. Users may look at a detailed record, for example, of temperatures taken every five minutes for a day, or they may wish to scan daily weather for over a month.

The Kantronics KTU, the first to provide remote weather data to a Packet LAN.

**Kantronics 1202 E. 23rd St., Lawrence, KS 66046
913.842.7745 TELCO BBS 913.842.4678 FAX 913.842.2021**





Hardware

Jay W. Townsend, WS7I
P.O. BOX 644
Spokane, WA 99210

This month the mailbag remains empty except for a letter from Harold WA0NAZ which I will forward to N2HOS because it has to do with software for PKTGOLD and RTTY pictures. I haven't received all the information for the ST-6 yet for my attempt at explaining how to interface that device to a PK232.

INTERFERENCE THE BIG CHALLENGE

There are a couple of issues I want to discuss this month. The first is interference. This is probably the most challenging and pervasive problem that today's Ham encounters. There has been a very good discussion in QST in the last couple of months which is well worth reading. However, in the digital world of interference that we are concerned with, is usually in our shacks. As I attempted to point out last month, different boxes that we use are more or less susceptible than others. Those devices that are not quite tight enough can always be tightened a bit by the Ham user.

Last month I tried to show you how to tighten up the terminal unit box which is one of the most likely places to both receive and send signals that are the disturbing and irritating signals that we find on our receiver. Most of the multi-mode devices have a CPU (central processing unit or computer) inside the box and they all have a standard Class B warning notice in the manual. They are tested at some point to pass the FCC requirements. Class B is residential while Class A is for commercial/industrial use. Anyway, it really doesn't matter which class they are in, most are still a little leaky.

As we discussed last month when I pointed out that the MFJ which I had just finished hooking up, was a real noisy guy. However, I forgot to mention that the problem wasn't the interior of the MFJ causing any big noise, but rather just letting noise into the receiver via that path. The MFJ is probably as quiet as anything on the market. But, I write these reviews or hookup articles in a "real" hamshack environment, where strange things can happen and often do. Continuing the story; the culprit that was causing all the noise here, is a new computer that I just finished putting together.

NOISY COMPUTER BOX

The real problem that exists is usually the computer that you have in the shack. Most of the "name" brand computers are also type accepted and have a sticker on the back so indicating it's either Class B or A. But in the real world you or some backyard computer builder may have put together the machine. If it doesn't have a "Type Acceptance Sticker", it probably could use a overhaul, before being put into use in your ham shack. First remove the cover. The nice mini-tower I have here is about as high as a terminal and has six screws in the back. The case has a front lip which kinda hooks on the front panel. The idea is to check for tightness of the cabinet.

MODERN TEST EQUIPMENT

My modern computer cabinet checker is an old Santec HT that I wave around the computer. With the squelch open, if there is noise present, you will immediately detect how much junk is coming out. I put the rubber duckie antenna on the screen and the keyboard. This way you can actually hear the noise from the computer. Keyboards usually get a split torrid or I find a piece of rod and place it within the coils of the cable. You might see a lump or two in your cords and if so, they have built in torroids and the keyboard will probably not emit much noise to the HT. That's one of the price differences between the name brands and the clones.

Now to the work part of this. Get out a file, a drill, or some steel wool. Attack all the places that are painted on the external case where screws come in contact with the metal case. You will find that some are much worse than others and your eye will improve in time for your next buying trip. Each screw must mate the metal case to the frame. Also watch out for painted black screws. I usually replace those with raw metal ones. The front where it hooks into the front piece may also need scraping and I find this is especially true of mini-towers.

I use star lockwashers on the back and even have had to use some screen on the front panels once or twice. DXers take note, even a bump to S5 might take out your

chances for a new one! Don't let computer racket cause you to lose a rare one.

One day not long ago Pat, NQ7M and I were visiting a good friend and we installed a DRSI (Packet) board into a 386 machine running at 33 Mhz. The computer was actually so dirty on the internal side that the board was locked into transmit and we had to reset the computer to unkey. His solution was to retire the "new screamer" and go back to a 286 for Packet.

MFJ HARDWARE

I have concluded my look at the hardware side of the MFJ 1278 and played with it quite a bit in the last month or so. The Multcom program seems to work real nice and perhaps Jim, N2HOS, might review it some time. The device itself is easily configured and the cord that came with it for the ICOM, was used on the VHF side. I always have liked the MFJ on Packet and this one is no exception. It is clear to see why so many of these units have been sold. Solid performance. Only flaw I could see was on FAX where I never did get a picture to print, but I am not very good at figuring out how the signals work! Should have asked Rory, N7CR, to show me how to tune FAX signals. I wanted to try slow-scan television but as luck would have it, never did find a signal.

With the availability of the custom cables and the built in keyer function I would rate the MFJ 1278 "in the race" with other units. As I detailed last month the manuals that MFJ puts out are first rate. It's obvious, as a lot of work was done on the 4th edition of the "big blue" book. It's probably even worth owning as a packet reference manual!

Send me more mail with your questions, I have lots of fine help available from dealers, manufactures, and users of digital equipment. See you next month in Dayton.

73, de Jay, Ws7i

WS7I @ WS7I.#SPOKN.WA.USA.NA

Results of the 25th VOLTA RTTY DX Contest

Class A1 Single Operator All Band

#	CALL	QSO	PTS	3.5	7	14	21	28	TOT	SCORE
01	I2HEO	257	4313	5	10	45	36	9	106	117,494,746
02	IK1FEK	239	3941	3	8	42	37	9	99	93,248,001
03	WA7EGA	224	4458		10	37	42	1	89	88,874,688
04	W1BYH	200	3328		8	36	40	1	86	57,241,600
05	I2TQU	202	2926	1	7	41	28	5	82	48,466,264
06	G0ARE	212	2424	6	7	39	34		86	44,194,368
07	OH2LU	184	1973	4	7	16	26	4	57	27,590,432
08	EM2C	176	2266	4	4	41	17		66	26,321,856
09	N6GG	132	2484		7	27	27	5	66	21,640,608
10	IV3ZDO	116	2308	1	8	28	27	9	73	19,544,144
11	I2WEG	146	1607	8	5	37	21	3	74	17,362,028
12	S15SM	161	1660	7	5	18	18	7	55	14,699,300
13	YO6JN	150	1702	3	4	34	15		56	14,296,800
14	N2HOS	90	1683		1	26	27		54	8,179,380
15	K6WZ/0	102	1389		7	21	23		51	7,225,578
16	EA1JO	80	936		1	25	48	6	40	2,995,200
17	Y23IL	80	721	6	8	21	15	1	51	2,941,680
18	SP9BCH	89	600	8	2	27	13		50	2,670,000
19	IV3DHD	58	1092			13	20	6	39	2,470,104
20	DE0GMH	82	648		4	24	17		45	2,391,120
21	WA6VZI	50	987			20	27		47	2,319,450
22	UV9CC	70	836			12	23	3	38	2,223,760
23	K4MI	59	1111			14	16	2	32	2,097,568
24	IK0CNA	61	905			20	13	4	37	2,042,585
25	HP1AC	50	1308			13	12	5	30	1,962,000
26	HA0HG	67	752		6	10	13	4	33	1,662,672
27	W4IF	46	900			14	15		29	1,200,600
28	IT9DWO	62	560		2	12	12		26	902,720
29	WB0YJT	43	656		3	8	21		32	902,656
30	IK4BZR	41	662			8	15	6	29	787,118
31	W9LNLK	39	757			10	16		26	767,598
32	I4IBR	46	497			16	12	4	32	731,584
33	I4XQG	49	470		4	17	9	1	31	713,930
34	G4MKO	56	347		8	9	11	2	30	582,960
35	SM7BGE	54	403			13	11		24	522,288
36	Y26GA	63	289		10		18		28	509,796
37	JA9MJR	31	789				16	4	20	489,180
38	LA5RBA	54	280	2		12	15		29	438,480
39	EA6ZS	37	329			10	12	2	24	292,152
40	IV3AAC	29	368	1	2	10	11		24	256,128
41	HA6NA	40	260			10	9	1	20	208,000
42	IV3VAP	38	382			7	6		13	188,708
43	IK4LZO	32	228			19	6		25	182,400
44	LZ1IA	54	47			14	11	4	29	73,602
45	Y31NB	22	179			9	3	1	13	51,194
46	IK2LOL	14	379			4	1	2	7	37,142
47	SM4CJY	16	131			6	9		15	31,440
48	DF2EY	16	168			3	7		10	26,880
49	IK0ORG	8	72			4	4		8	4,608

Class A2 Single Operator Single Band 14MHz

01	YU3HR	212	2789						50	50	29,563,400
02	I2KFW	91	933						41	41	3,481,023
03	IV3KCB	77	652						40	40	2,008,160
04	OK3YCM	32	214						17	17	116,416
05	OZ7XE	38	151						12	12	68,856
06	YU3BQ	2	44						2	2	176

Class A2 Single Operator Single Band 21 MHz

01	G4SKA	137	2013						46	46	12,685,926
02	W6/G0AZT	79	1458						37	37	4,261,734
03	JE2UFF	71	1798						29	29	3,702,082
04	AH6JF	54	1170						77	77	1,453,140
05	SM4RGD	43	502						21	21	453,306
06	IKIPFW	31	231						21	21	150,381
07	EA1EVY	22	145						15	15	47,850
08	DF5BX	14	233						10	10	32,620
09	EC3CTG	10	112						10	10	11,200

Class A2 Single Operator Single Band 28 MHz

01	JA2NMF	10	460						7	7	32,200
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Class A2 Single Operator Single Band 3.5 MHz

01	YB2OK	32	55	14						14	21,640
02	SP3BGD	117	62	9						9	9,486

Class B Multi Operator All Band

01	UZ9CWA	293	4443	8	7	30	54	21	128	166,630,272
02	LZ5W	295	5039	3	11	36	39	10	99	147,163,995
03	UZ0LWC	284	5208			24	55	19	98	144,949,056
04	OK1KQJ	275	4313	4	8	44	29	3	88	104,374,600
05	G3UUP	277	3986		8	38	30	6	82	90,538,004
06	LZ2KIM	238	2814	1	5	38	29	10	84	56,257,488
07	OK2OIH	211	3284		2	30	39	3	74	51,276,376
08	OK3RJB	176	1888	2	13	32	23	2	72	23,924,736
09	DF0BUS	36	282		3	13	8		24	243,648
10	HA6KVD	25	88			5	4	2	11	24,200

Class C SWL

01	ONL 383	152	1454			11	31	35	5	82	20,332,736
02	I3-60771	73	897	2	7	21	17	5	52	3,405,012	
03	IN3-085	76	762	4	6	24	11		45	2,606,040	
04	BRS 27239	70	409	6	3	17	13	1	40	1,145,200	
05	I7-237/BA	56	385			18	15		33	711,480	
06	ONL 3997	53	413			15	11	1	27	591,003	
07	ONL 4335	44	454			11	14	2	27	539,352	
08	IN3-303	39	355	2		12	15		29	401,505	
09	ONL 4003	19	149			9	4		13	36,803	
10	SO-01881-GD	20	84		1	8	2		11	18,480	

Control Logs

RA3PS - SM5EIT - SM4RGD - I2DMI

Submitted by Francesco, I2DMI

26th VOLTA RTTY DX Contest Rules

Test Period: 12:00 GMT Saturday May 9, May 9, 1992 until 12:00 GMT Sunday, May 10, 1992. In the future this event will take place on the second weekend in May.

Bands: 3.5, 7, 14, 21, 28 MHz

Classes:

A1 Single Operator, all bands
A2 Single Operator, single band
B Multi-Operator, single transmitter (list names and callsigns of all operators)

C SWL

Scoring: All two-way RTTY contacts will score in accordance with the EXCHANGE POINTS TABLE. Contacts between stations within the same country will not be valid e.i. a W2 station can work W1, W3, W4 etc., but not W2. Contacts made OUTSIDE ONE'S OWN COUNTRY on 3.5 and 28 MHz are worth double points.

Contacts: Stations can be worked only once for each band. Additional contacts may be made with the same station if a different band is used.

Multipliers: A multiplier of 1 is given for each country contacted. The same country may be claimed again if a different band is used. An additional multiplier is given for each INTERCONTINENTAL COUNTRY worked on at least 4 bands. A contact with a station

which would count as multiplier will only be valid if that station appears in at least 4 other logs, or contest log is received from that station.

Scoring: Total exchange points multiplied by the total number of multipliers, multiplied by the total number of QSOs. (Points X Multipliers X QSOs = Final score)

Countries: ARRL Country list plus each Call Area in Australia, Canada and the USA will be counted as a separate country. DO NOT COUNT the general Country Multiplier (VE-VK-W) when you count each Call area (VE1..0, VK1..0, W1..0)

Message: MUST consist of RST, QSO number, Zone number

SWLs: The same scoring rules will apply but must be based on stations and message copied.

Awards: A SPECIAL Trophy will be awarded to the top stations in each class. In addition, a certificate with special sticker to all entrants.

Logs: Use one log per band. Logs must contain, Band, Date, Time (GMT), Callsign of station worked, message sent, message received, points and multipliers claimed. A summary sheet is required with a list of multipliers worked in each band. Comments will also be very much appreciated.

All logs must be received by July 30, 1992 to qualify.

Send Log to:
Francesco Di Michele, I2DMI
P.O. BOX 55
22063 Cantu
ITALY

Exchange Points Table pg. 22

MARS Celebrates Armed Forces Day

The Army, Navy, Marine Corps and Air Force are co-sponsoring an Amateur Radio Program in celebration of Armed Forces Day per Department of Defense Directives, featuring the traditional military-to-amateur cross band communication test and message receiving test. The tests give amateur radio operators and short wave listeners an opportunity to demonstrate their individual technical skill and to receive recognition from the Secretary of Defense or the appropriate radio station for their proven expertise.

a. The proceeding will include operations in continuous wave (CW), single sideband (SSB) and radioteletype (RTTY).

b. Participating military radio stations will award commemorative acknowledgment (QSL) cards to amateur radio operators achieving a verified two-way radio contact. Special commemorative certificates will be awarded to anyone who receives and accurately copies the Armed Forces Day SW and/or RTTY message from the Secretary of Defense. All contacts must be acknowledged by QSL card or certificate to validate military interest in these operators.

MILITARY - TO - AMATEUR CROSS BAND TEST Military-to-amateur cross band operations will take place from 16/1300 (UTC Universal Time) to 17/0200

(UTC) May 1992. Military stations will transmit on selected military frequencies and listen for amateur radio stations in the amateur bands indicated below. Frequencies assigned below are the "Assigned Frequency." To derive the "Window Frequency" drop 1.5 KHz from the "Assigned Frequency" for USB.

The military operator will announce the specific amateur band frequency being monitored. Duration of each contact should be limited to three minutes.

STATION	MIL. FREQ	EMMISSION	BAND
AAE	4030.5 KHz	LSB	80 MTR
ARMY HF/MARS Radio Facility Fort Sam Houston, TX	7358.5 KHz 13994.5 KHz 20941.5 KHz 27992.5 KHz	RTTY/CW USB CW USB	40 MTR 20 MTR 15 MTR 10 MTR
AAH	4021.5 KHz	LSB	80 MTR
ARMY HF/MARS Radio Facility Fort Lewis, WA	6988.0 KHz 10151.5 KHz 14488.5 KHz 20975.0 KHz 20995.5 KHz 27820.0 KHz	RTTY/CW USB/CW USB USB RTTY/CW USB	40 MTR 30 MTR 20 MTR 15 MTR 15 MTR 10 MTR
AAR	4033.5 KHz	LSB	80 MTR
ARMY HF MARS FT Bragg, NC	7309.5 KHz 14440.0 KHz 20105.5 KHz 27810.0 KHz	RTTY/CW USB USB USB	40 MTR 20 MTR 15 MTR 10 MTR
AIR	4025.0 KHz	LSB	80 MTR
89th Comm. Group Andrews Air Force Base Washington, D.C.	6995.5 KHz 7315.0 KHz 13986.5 KHz 13997.5 KHz 14408.0 KHz	CW LSB RTTY CW USB	40 MTR 40 MTR 20 MTR 20 MTR 20 MTR
NAM	4005.0 KHz	LSB	80 MTR
Naval Computer Tele- communications Area Master Station LANT Norfolk, VA	14400.0 KHz	USB/RTTY/CW	20 MTR
NAV	7372.5 KHz	RTTY/CW	40 MTR
HQ Navy-Marine Corps MARS Radio Station, Cheltenham, MD	14389.5 KHz	USB	20 MTR
NAV-8	4008.5 KHz	Various	80 MTR
DIRNAV MARCORMARS REG 8 530 Peltier Ave Honolulu, HI	14820.0 KHz 18900.0 KHz	Various Various	40 MTR 20 MTR
NMH	4015.0 KHz	CW	80 MTR
Coast Guard Comm. Alexandria, VA	7346.5 KHz 14440.0 KHz 20937.5 KHz	LSB RTTY/CW USB	40 MTR 20 MTR 15 MTR
NMN	7393.0 KHz	RTTY/CW	40 MTR
Coast Guard Comm Area Master Station, Chesapeake, VA			
NPG	6970.0 KHz	CW	40 MTR
Naval Comm. Station Stockton, CA	7301.5 KHz 7365.0 KHz 10259.5 KHz 13927.5 KHz 13975.5 KHz 14375.0 KHz 20625.0 KHz 24805.0 KHz 27950.0 KHz	LSB CW CW RTTY CW USB USB CW USB	40 MTR 40 MTR 30 MTR 20 MTR 20 MTR 20 MTR 20 MTR 15 MTR 12 MTR 10 MTR

NPL	7382.5 KHz	RTTY	40 MTR
Naval Comm. Station San Diego, CA	14385.0 KHz	USB	20 MTR
NZJ	7375.0 KHz	RTTY	40 MTR
Marine Corps Air Stn. El Toro, CA	14480.0 KHz	USB	20 MTR
WAR	4018.5 KHz	LSB	80 MTR
HQ Army MARS Radio Stn. Fort Detrick, MD	6998.5 KHz 13992.5 KHz 14403.5 KHz 20995.5 KHz	CW RTTY/CW USB USB	40 MTR 20 MTR 20 MTR 15 MTR

CW Transmission Test - A CW receiving test will be conducted at 25 words per minute. The broadcast will be a special Armed Forces Day Message from the Secretary of Defense to any amateur radio operator or short wave listener desiring to participate. A 10 minute call for tuning purposes will begin at 17/0230Z (UTC) May 1992. The Secretary's message will be transmitted at 17/0240Z (UTC) May 1992 from the following stations on the listed frequencies.

Transmitting Station	Frequencies	
AAE	7358.5	20941.5
AAH	6988.0	10151.5
AAR	7309.5	20995.5
AIR	6995.5	13997.5
NAM	14400.0	
NAV	7372.5	
NAV-8	4008.5	14820.0
NMH	4015.9	14400.0
NMN	7393.0	
NPG	7365.0	13975.5
WAR	6998.5	13992.5

Radioteletypewriter Transmitting Test - Two radioteletypewriter receiving tests will be transmitted. The first will be at 60 words per minute using 170 hertz (narrow) shift. A 10 minute call for tuning purposes will begin at 17/0300Z (UTC) May 1992. The Secretary's message will be transmitted at 17/0310Z (UTC) May 1992, and the second will be at 100 words per minute using 170 hertz (narrow) shift. A 10 minute call for tuning purposes will begin at 17/0330Z 9UTC) May 1992. The Secretary's message will be transmitted at 17/0340 (UTC) May 1992 from the following stations on the listed frequencies:

AAE	7358.5		
AAH	6988.0	20995.5	
AAR	7309.5		
AIR	13986.5		
NAM	14400.0		
NAV	7372.5		
NAV-8	84008.5	14820.0	18900.0
NMH	14400.0		
NMN	7393.0		
NPG	7382.5		
NZL	7375.0		
WAR	13992.5		

Submission of Test Entries - Transcriptions of the CW and/or RTTY receiving tests should be submitted "as received." No attempt should be made to correct possible transmission errors. The time, frequency and call sign of the military station copied as well as the name, call sign, and address (including zip code) of the individual submitting the entry must be indicated on the page containing the test message. Each year, a large number of acceptable entries are received with insufficient information or the necessary information was attached to the transcription and was separated, thereby precluding the issuance of a certificate. Entries must be postmarked no later than 26 May 1992 and submitted to the respective military commands as follows:

Station copying AIR send entries to:

Armed Forces Day Celebration
89CG/DOJMJ
Andrews AFB, D.C. 20331-6345

Stations copying NAM, NAV, NMH, NMN, NPG, NPL, NZL and NAV-8 send entries to:

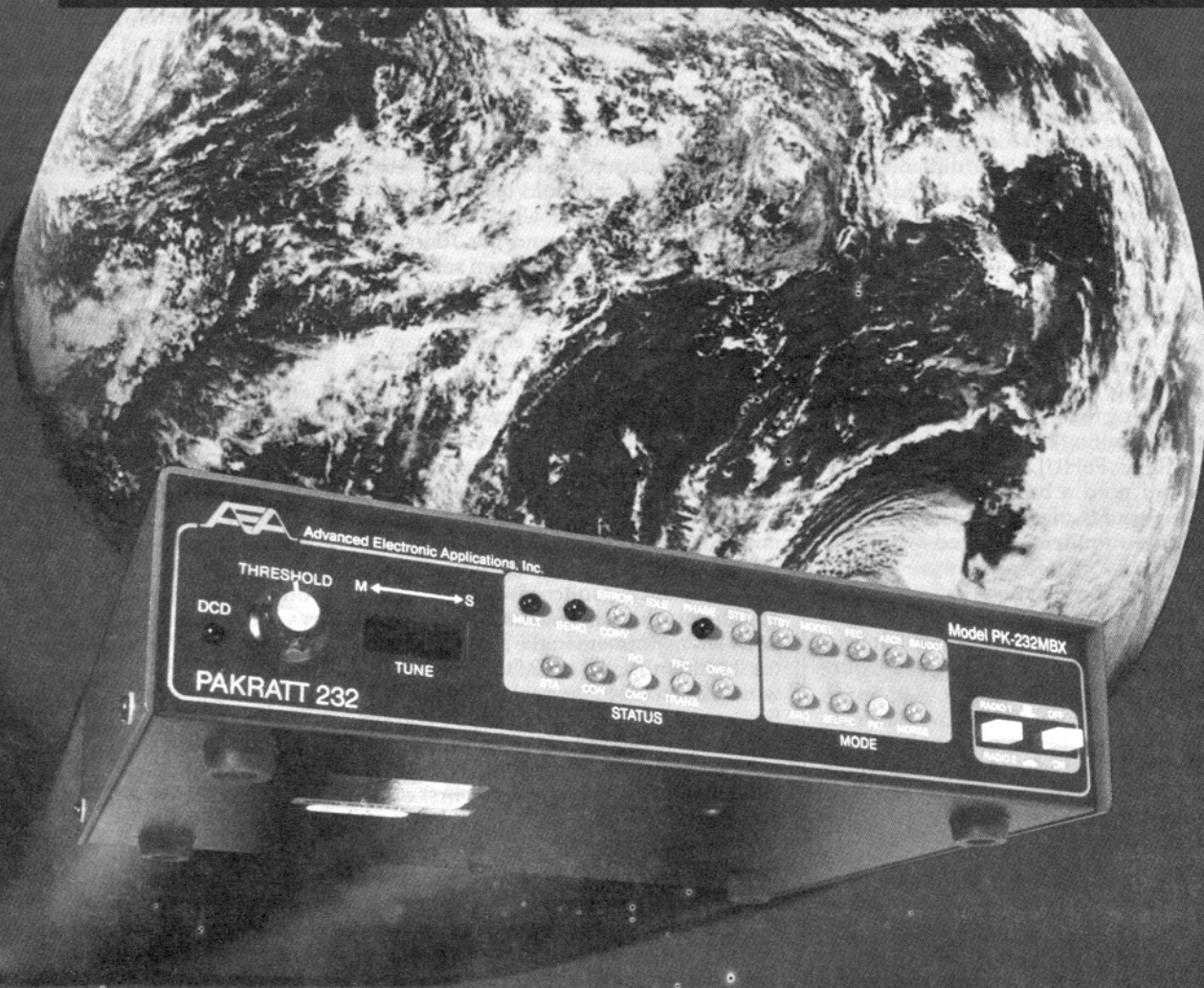
Armed Forces Day Celebration
HQ Navy-Marine Corps MARS
Bldg-13 NAVCOMM DET
Cheltenham
Washington, D.C. 20397-5161

Stations copying AAE, AAH, AAR, or WAR send entries to:

Armed Forces Day Celebration
Department of the Army
U.S. Army information Systems
Command
ATTN: ASOP-HF
Fort Huachuca, AZ 85613-5000

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RTTY DXpedition to Albania (ZA1A)

by Luciano, I5FLN

Everything began for me last August while I was vacationing in Forte dei Marmi. I received a phone call from my good friend Gin, JA1ACB, in Toyko, who informed me that Martti, OH2BH, was to leave for a DXpedition to Albania and gave me Martti's phone and FAX numbers, asking me to call him. I had some difficult days due to family problems but I told Gin I would get in touch with Martti when I arrived back home on September 2nd.

Though in doubt, I gathered my courage and called Martti. He answered my call and was so happy to hear from me. He confirmed the Albania expedition during the upcoming Tokyo Hamfest and added he was looking for an RTTY operator. Since I was late in calling him, he had placed the name of Regis, F6HUJ, as an RTTY operator but he did need a back-up operator. He asked for copies of my license, passport and phone numbers. I asked what the chances for RTTY operation were and he explained that the license was for SSB and CW plus the only digital gear was a Tono 5000 which had been sent to F6HUJ. It was understood he would be joining the group in Albania.

ZA1A operations began on September 16 as scheduled. I had asked Martti on several occasions earlier before the expedition how things were going for RTTY operation but the answers were elusive and I began to think nothing was going to happen.

When I QSOed T2MQP, operating ZA1A, I asked him about RTTY operation and he told me that the last week of the expedition they would be able to operate RTTY. With the Tono 5000 with F6HUJ there was little chance of me going to Albania. I also did not have anyway of getting in touch with F6HUJ. After some consideration I asked Jean, F8XT, to help me get in touch with F6HUJ. Two days later I was informed by Jean that Regis had never spoken to Martti about the expedition. Things changed quickly shortly thereafter.

On September 26 I worked ZA1A on CW at 0510Z. Upon finishing the QSO my phone rang and it was Martti calling from Tirana and asked me to come to Albania immediately. He had arranged for me to leave Zurich on October 3 and to arrive in Tirana and

there he would be waiting to pick me up at the airport. He told me to contact Regis and get the Tono 5000 shipped to me for the trip. From that point on many arrangements had to be made and with the help of many friends it was all accomplished. In no time at all I had borrowed a Kenwood TS 690S, telereader 685 and all cables needed were made up so I could test and get acquainted with the gear. Unfortunately Regis did not wish to send the Tono 5000 because it seemed he had been selected to go on the trip but somehow that fell apart. He was not to be happy. There is more to this part of the story but not enough space to cover it all.

On the day of departure, I awoke at 0415, at 0500 my wife Sandra drives me to the highway where I meet with friends who will drive me to Milano because all flights from home were booked. I had with me now a PK-232, 5A power supply, telereader 685S, shoulder bag with Laptop computer and my suitcase which had some additional cables. In this rush, we drove off and I left my camera in the back seat of my car. My friends all wanted to know when I would be on the air and who would be my first contact. Such problems and I had not left yet, but I did say, if someone deserved to be first, it should be my wife. However, in reality, it would probably be first come, first served.

The flight to Zurich went smoothly and soon I was there waiting the two hours for the flight to Tirana. It was only a two hour flight to Tirana from Zurich and upon arrival spent some time getting through customs. At the exit gate I was met by Agim Muco and Dayln Omeri of the PTT Ministry, a University of Tirana Physics professor and Martti. It was my first meeting with Martti but it was as if we had known each other for a long time. After customary greetings we were on our way downtown to the hotel, unloaded the equipment and from there went to the PTT Ministry.

The ministry was our operating location and the front of the building has a large plaque which has been duplicated for the QSL card face. My heart is beating rapidly as we ascend to the top floor of the building. There I meet two operators, Antonio, IK0FEW, and Scotty, W7SW. Two complete stations are set up using such equipment as FT1000, TS690, FT747, TL922 and other associated gear. Here is where I would be operating from. Now the adrenaline begins to flow and I set up my gear in no time at all. Soon I am ready and Martti sits down beside me as I make the first call. I realize then that I have the shifts upside down but nevertheless, there on the screen I see "ZA1A ZA1A de JA1ACB JA1ACB RSR 599 599 599 okay bk?"



L. to R. Omeri, ZA1AA, Martti, OH2BH, Luciano, I5FLN, Geni, TA1TAB

Everyone was elated, after all, this was our first RTTY contact from Albania and with Gin even though we had not planned it this way. While I operated, Martti left but soon returned with the Albania QSL card where we entered the QSO information, signed the card and mailed it immediately to Japan. Very fast service, indeed. Many more contacts are made until 1855z when we stopped for dinner. After dinner we called our families and at 2128Z resumed operations until 2150Z when we decided to quit for the night.

Friday, October 4, the wakeup call is at 0600 and soon I am back on the air. QSOs go quickly and I manage to complete many contacts with no trouble at all. That morning I made my first contact with my wife Sandra, IK5HGV, and frankly I was moved. This day being St. Francesco day in Italy, I wish all the best to Francesco, I5IGQ, and Clelia, I5ICY, and went back to the pile-up. At mid-morning 12 Albanian amateurs call on us, among them are 4 engineers, technicians and a YL, Mirela. Martti was the master of ceremonies, introducing Giorgio, I2KMG, Antonio, IK0FEW, and myself. We all wished them good luck in getting their tickets and I demonstrated RTTY to them all.

At 1300 hours we attended the official lunch where the tickets were given to the new Albanian licensed amateurs. It was a moving ceremony and here too Martti showed up as a great Master of Ceremonies. After lunch I resumed activities up to 2025Z making a lot of contacts; things were going along smoothly except for the competition between operators over who would get to use the best antenna. In fact we had to share a 3 element beam, a 40 meter dipole and vertical for 10, 15, 20 and the WARC bands.

Saturday, October 5 arrives; this was my longest day; I sat at the keyboard from 0621Z until 1915Z; eating only the 8 crackers left by Giorgio and drinking a half bottle of mineral water stolen from Scotty.

On Sunday October 6, I put the telereader in service. It was to be a gift to the Albanian Hams. I proceeded to give them lessons on how to use this piece of gear while continuing to QSO many stations. On an expedition such as this, public relations are also a part of the program. I had many memorable moments with not just Albanian Hams but also some of the other Hams from around the world who participated in this adventure. I met Pekka, OH1RY, who I had worked previously on 80 and 40 when he operated from rare spots in the Pacific. Later Agim

invited us to his home for coffee and later evening we attended the official dinner with all the students and Mr. Daylan Omeri, ZA1TAA, and Geni, TA1TAB, at the Tirana Hotel. There we were joined by Daylan, ZA1TAA, and Geni, ZA1TAB. During dinner we were entertained by a group of Americans singing spirituals. Martti and Scotty discover they are from Visalia, CA (home of the DX convention each year). They were promptly invited to attend the next DX convention.

Throughout all this many thanks were given to us by the Albanian Hams and many pictures were taken. Fortunately Martti took many for without my camera I had none. Martti came to my rescue here. Later that same evening we were back again at the ministry to continue to operate until 0300 hours. Finally dead on our feet we went back to the hotel for some rest.

After three hours of sleep, back again to the ministry for the last day of operation. When it was time to quit my last QSO was with friends back in Firenze who are to pick me up when I get back home. I then show the Albanians AMTOR and they like it very much. My only AMTOR contact here was with the BBS of OD5NG, where I left a message.

We went QRT and closed down, with the help of friends. We toured the city with Pekka, Geni and Scotty and took the last shots left in the camera. Martti filled out two QSL cards, one for me and one for my XYL thanking her for letting me go along on this wonderful expedition and to me for our new friendship. Soon we are aboard our flight back to Zurich, where Giorgio, Martti and I toast our many successes.

Over 75,000 QSOs in total with more than 1200 in RTTY. We talked about where to go next and parted to go our separate ways at Zurich.

After a short flight to Milano, we landed in heavy rain but found I5ICY, I5IGO and I5KQ waiting for us with a banner welcoming us home from Sergio, IK5AAX. I said good-bye to Giorgio and the expedition was over.

A special thanks to our Italian Association who warmly supported my participation in this unforgettable experience. To all the members of the ZA1A team, and to the Albanian friends invaluable help. To Agim Muco, to Dmeri, ZA1TAA, Geni, ZA1TAB, Angelo, ZA1TAC, and to all those who cooperated to make this expedition a success. Thanks to Giorgio, I2KMG, who shared this exciting experience with me, Alfredo, I5UXJ, who took me to the airport, Clelia, I6ICY, Francesco, I5IGQ, Roberto, I5KG who picked me when I arrived back home. A special thank you to Mike Lamb, N7ML, who sent me the latest upgrade for my PK-232.

A most grateful thanks to my wife Sandra, IK5HGV, who gave me the permission and support and stayed home with our two children, Francesca and Luigi.

QSO Results: Africa 3, Asia 286, Europe 597, North America 422, Oceania 11, South America 9. A total of 1328 QSOs with 63 countries worked.

Best Regards de Luciano, I5FLN



L. to R. Angelo, ZA1TAC, Jovan, ZA1TAH, Luciano, I5FLN



DX NEWS

John Troost, TG9VT
P.O. BOX 524263
Miami, FL 33152-4263

I guess that when one has to write an RTTY DX Column, the weekend of an SSB contest would probably be the best; that goes to say, if you are not forced to use a new word processor, you don't know anything about and have to look in the manual more than you look at your Notes for the issue.

Well, February turned out to be a rather good month for DX on RTTY and the promise for March are even better. Plus, between all that, I was invited for a Dxpeditio myself, but not under the usual circumstances: more about that later.

The very rare reported for January in your February *RTTY Journal* continued in February, such as AP/WA2WYR, PAKISTAN, XQOX, ST. FELIX, VP8CFM, SOUTH ORKNEYS and continued activity from ANGOLA plus as outstanding expedition from NAVASSA and another one from CHRISTMAS ISLAND. Yes, I guess a lot of the guys should have been happy.

FEBRUARY HAPPENINGS

Many more goodies were around, such as, A47RS, A92FG, A92DQ, V73EM, XX9AS, S79PDL, P21BS, UL7BFM, UO5OLW, 9M8ZZ, 5Z4BI, ZD8LII, Z21HJ, V51GB, V21GI, UI8UC, UM8WA, SU1AH, KG4DD, TY1PS, 9X5LJ, BZ4RDX, BY4AA, TA3G, UC2LEG, A22BW, 7Q7LW, 7Q7XX, AH0/A5K, 5V7JG, UL7AAV, RI8LEZ, VP5JM, WH0/WD3D, RA9MA, 7Z1AB, T30NY, VP25EE, AP2NK, KH7/KD7P, YL2JN, OX3EY, BV2CI, 5B4VX, TR8KMJ, OH0NA, VP8BFH, VK9XM, UV9AV, ZA1TAA, TU2BB, U5XG, VU/HA2BUS, CN8NS, CN8CC, J39A, 3C1EA, VS6AI, 7X2DS, PJ5JM, UI8DAM, VQ9RB, V85GA, HC8K, H44JS, EA9MY, OY9JD, FW1FM, plus many more, who really prove that it is not difficult to acquire an RTTY DXCC in one month, providing you do not eat, sleep and be careful to neglect your family.

But, in amongst all that euphoria, not a word of BANGLADESH. Oh how long, how long?

MY EXPEDITION

On the morning of 10 February, at eight in the morning, I received a phone call from the Kuwaiti Embassy in Brasilia, Brazil: "Is

this Signor Troost, TG9VT? Yes it is, what can we do to help you? Well, Signor Troost, the Kuwaiti Ministry of Information, on whose behalf we are calling, would much like you to visit Kuwait for a week, for the National Liberation Days, the week of 22 February through the 29th of February. All costs to be born by the Ministry."

And how do I deserve this? Oh, it is not just you, but a small group of Radio Hams, who have contributed immensely to the resistance against the occupation by Iraq and our Government feels that some token of appreciation should be shown to those worthy. Guess I had not felt worthy of anything for a long time, for the words flowed out of mouth, "Count me in."

The next ten days were mainly tied up in Red Tape, getting Visas or papers in lieu of Visas (the Kuwaiti Embassy in Brasilia is 10 hours flying time from Guatemala). And not to forget Air Line tickets.

So, on the 21st I am off via Miami and London to Kuwait, arriving around midnight the 22nd, where I am greeted by a grinning Mohsin, 9K2EC, and Abduljabbar, 9K2DZ. What a joy to find two such fine people I had wanted to meet for years, in person.

Anyway, this was the beginning of a most wonderful week, the group assembled here consisted of SU1ER, Ezzat, a well known DXer and wonderful person, SM0CXM, Lars, a CW Miracle, WA1URA, Frank, creator of the "Last Voice From Kuwait" and N6DST, Scotty, the Ham Operator aboard the U.S.S. Kennedy, who ran thousands of QTCs back from the Kennedy to the States and visa versa plus, in his "spare time" picked up Abduljabbar's latest on the internal situation in Kuwait during the Iraqi Occupation. Several others were invited, who for one reason or other could not attend. There was Clark, W9CD, who could not obtain a passport in time and then there was Tom, OD5NG, who was just then moving to Durham and could not spare the time, much as he would have liked. We will miss you from Mount Herman, Tom.

Anyway, this was the beginning of a most interesting and wonderful week with the most lovable people in the world. Field

days, dinners, awards, etc., but I will save all this until next month, when the pictures are ready and have had time to travel to California. To me, it was an unforgettable experience and we certainly did not deserve the honors; the honors belonged to the risk takers, the true heroes of the occupation, like 9K2DZ.

MORAL SUPPORT PLEASE

As I sit here trying to get this column together, trying to be timely with much pain, I must reflect of what else, over the years Ham radio has enticed me into. Of course, there is my principal hobby, DX, but that is sorely being chewed into by my APlink Mailbox, running some 150K a day. This mailbox, years ago, was started as support for the DXer, gathering every little bit of DX information I could find for general information. Then came our beloved DX-1, VK2SG, who put a coherent column together on a weekly basis. To me the honor of distributing it. When VK2SG was unable to do the column; John could you please? The Ohio/Penn 5000 bytes Columns are gracefully dropped into my box by Bob, WB2CJL; surely very solid interesting material for the serious DXer. Plus a few little chores I have not mentioned.

Where does this leave me meanwhile? It takes me some 9 hours to put this column together; plus I have to be sure to get the latest DX publications, prepare myself well and sit at a WP, which I really cannot read as my eyes are not getting better by the year.

I try to run a business on the side, but having reached the graceful age of 68, plus a few medical problems, I am just overextended and need to cut down somewhere.

It is my suggestion to our esteemed Editor, that, upon termination of the April Column and the rest of the story from Kuwait, I retire from the *RTTY Journal*. I am however, open to better ideas, should someone care to advise me but as things are I cannot cope anymore.

ADIOS

Of course, the trip to Kuwait was the highlight of the month for me, but after much finagling I was also able to obtain a QSL card from TI9YO, QPCOS. There are many people to be thanked this month, including 9K2DZ, 9K2EC, SU1ER, 9K2DQ, action maker of the Kuwaiti Radio Club and its' president, Mr. Adul-Rahman al-Awadhi, I5FLN, VK2SG, KB2VO, KE5HE, WB2CJL, W6PQS, and many others from whose input this column was constructed. May the Lord, our God, bless you all.

de John, TG9VT
on the Guatemalaian Volcanos

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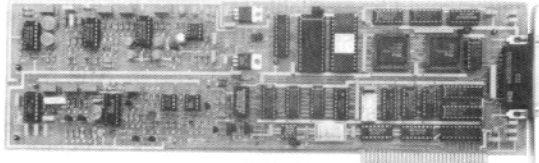


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A NEW USE FOR PACKET

Collecting and Down-loading Weather data with a BBS-like Format

by Phil Anderson, W0XI

It occurred to me about two years ago that we ought to be able to combine two popular segments of our hobby, weather activities and packet. Packet has already become an important part of emergency communications, by virtue of its error-free characteristic. Messages about health and welfare, chemical spills and similar emergencies must be reported accurately. In addition, weather watching has and continues to be a way amateurs can contribute to their communities, and is one of the foundation blocks for the justification of our licenses.

In thinking about combining these two activities, it seemed that the part lacking was the automatic gathering and storing of basic weather data. If historic and current data could be made available quickly on demand that would be ideal for most activities. In addition, it would be a real plus if information could be available for even longer periods for the weather hobbyist.

So, we decided to design a unit that would gather data often and store it for extended periods. In addition, to extend its flexibility, we decided to make this unit attachable directly to a computer or to a packet unit. Hence, the original idea was satisfied; we'd provide a unit that would collect and store data that was also accessible to the packet network. This basic concept is shown in Figure 1. This Weathernode system would typically consist of weather sensors, the telemetry unit itself, a packet mode, an FM transceiver and antenna. Such a system could be a part of your shack or it could be situated remotely.

• Gathering weather data, the A/D inputs

The weathernode, as we've come to call it - it's actually the Kantronics Telemetry Unit, has analog-to-digital (A/D) inputs and a RS-232 serial output. Seven inputs are provided to attach sensors to. These sensors are scanned, one at a time, by a single A/D converter. Sensor voltages or 4-20 ma current loops can be accommodated.

In many ways the KTU is like a TNC in that it has a micro-processor, memory and a serial port. The only difference is that we've substituted an analog port in place of the usual radio modem circuit. The micro-processor and memory handle the job of sampling the sensors for data, organizing the data, storing it and communicating with a computer or TNC via the serial port.

• Presenting data in a BBS-like format

And here's where the "Weathernode" begins to look like a BBS. The program within the weathernode has a system operator (SYSOP) mode; that is, you the operator direct the unit, via a sequence of characters, to sample selected sensors at a specific rate. For example, if you attached a temperature sensor and an anemometer to the unit, you could command it to sample these sensors every ten minutes for temperature, wind direction and wind speed. Once you complete that command sequence, the unit reverts to a user mode, Sysop access is, of course, restricted by password.

In user mode the Weathernode responds much like a mailbox. After you connect to it, it presents a WXN: prompt. You then respond with a command, indicating the data you want to see. It then simply sends that data back to you in tabular form. See the example in Figure 2. You can simply ask for "DATA" and you'll get back the last batch of sampled data. Alternatively, you could ask for the last three temperature samples, as shown in the figure, or the last wind speed samples.

Data available, the frequency of the samples, and the amount of historical data stored will depend on how the SYSOP has set up the weathernode. The unit compresses the raw data as it is sampled and stores it in a 32K buffer. If the data is collected every few seconds, then only a few days of data will be available. If the data is sampled just a few times a day, then months of information will be available.

My preference is to set temperature and wind data sampling for on the half-hour or so and thereby have the memory to store months of data. I then like to down-load the data into a file on my computer, import it into my spreadsheet program and plot the temperature as it cycles over a week or a month. (see front cover) As you can imagine, the variations on how one might do this and the personal or community uses are endless.

ED: Phil Anderson, W0XI, is president of Kantronics Inc., 1202 E. 23rd ST., Lawrence, KS. 66046

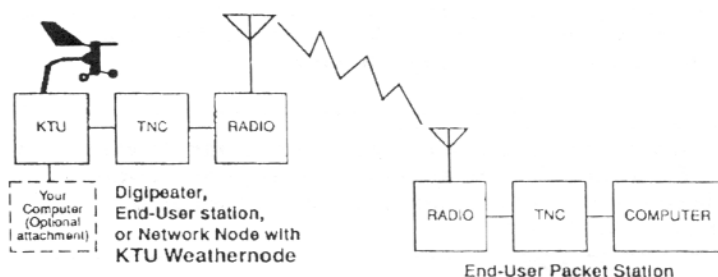


Figure 1

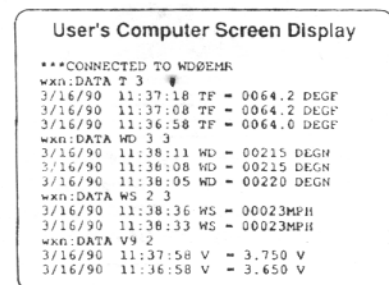


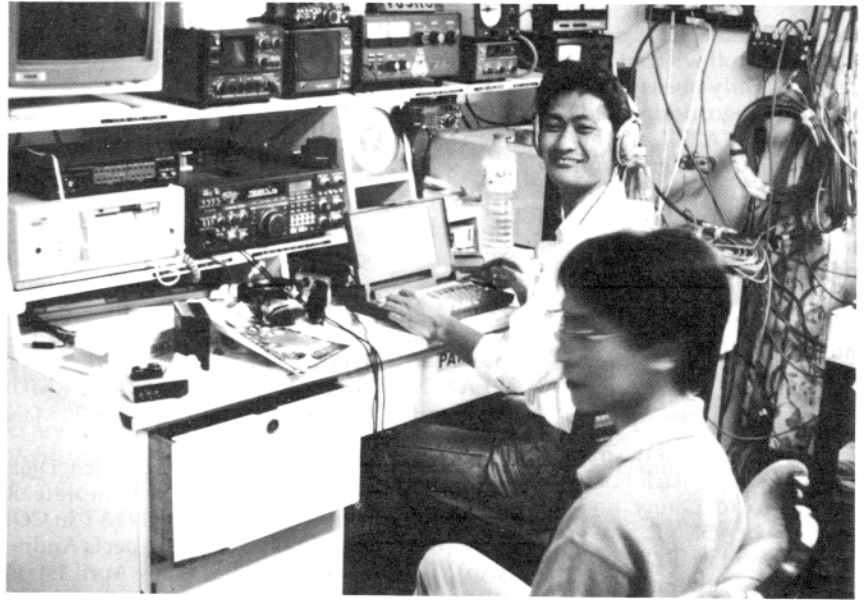
Figure 2

BACK TO BURNEI

In October 1991 the RTTY Journal ran a story entitled "Great AMTOR Story" that was submitted by Richard, KE7XO. It was a very interesting story about how a friendship developed between him and some nice folks in Brunie and his subsequent trip to visit them in 1990. Richard returned to Burnei again in 1991 and has submitted some nice pictures of the people he met this time. It appears he made it a point to photograph as many Hams as possible during his stay.

While there he made over 1,000 contacts but only about 100 on RTTY. It seems most Hams were not beaming long path or were calling on his xtal bond frequency. He was very disappointed in his results on RTTY. So are we Richard.

Our thanks to Richard for sharing these nice pictures with us.



Rear: Ron, JR0JFM, Front: Hal, JO2BMU, shack of V85HG during 1991 CQ CW contest.



L-R unknown, relative to V85SS, Naaiman, V85YL, (XYL of V85SS), Ambran, V85SS, Gerald, V85GA, Les, G3HZG, Lita, V85LM, (XYL of V85AA), Bill, V85AA

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