DIGITAL JOURNAL™

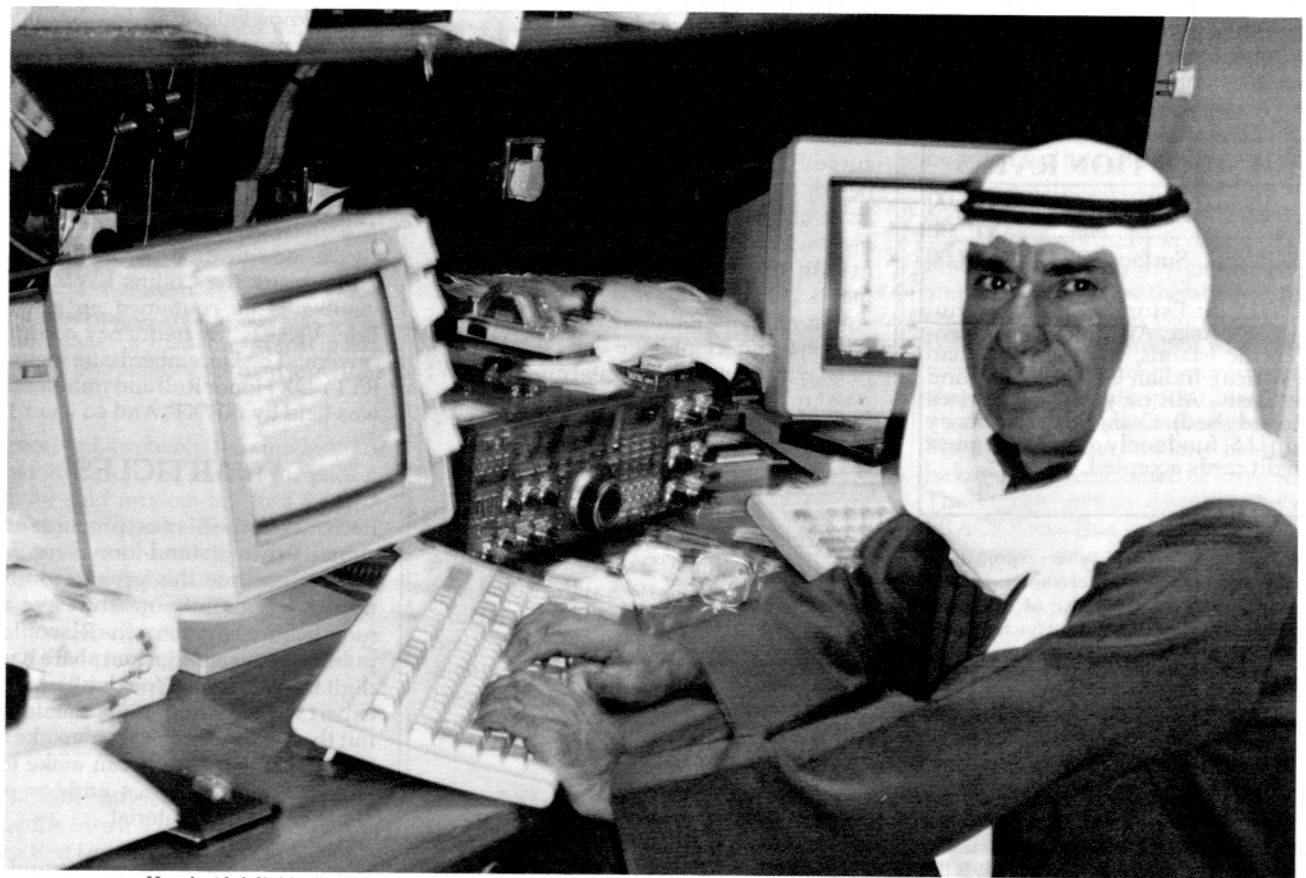
Price: $2.95

A Dedicated Digital Publication Since 1953

Volume 40, Number 4, April 1992

LAST VOICE FROM KUWAIT

See DX News - page 20



Heroic Abduljabbar, 9K2DZ, "the last voice from Kuwait " at the keyboard used throughout the Liberation movement.

RTTY DIGITAL JOURNAL

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POSTMASTER:
The RTTY JOURNAL (USPS 391850) is published monthly, except combined May/June and July/August issues, for $15.00 per year, by RTTY JOURNAL, 9085 La Casita Avenue, Fountain Valley, CA 92708. Second Class postage paid at Santa Ana, CA 92799-9998 and additional mailing offices.

ADDRESS CHANGES:
Please send all address changes to: RTTY JOURNAL, 9085 La Casita Avenue, Fountain Valley, CA 92708.

ISSN 0033-7161

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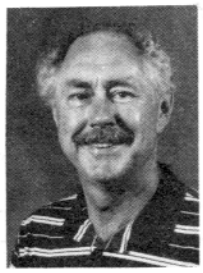

HITS & MISSES

Dale Sinner, W6IWO
9085 La Casita Ave.
Fountain Valley, CA 92708

DIGITAL COMMITTEE MEETING

Ed Juge, W5TOO, has scheduled a Digital Committee meeting for the weekend of June 12, 13, and 14, 1992. One of the objectives of the meeting will be to discuss the Unattended Automatic Operation issue. Ed has made arrangements for committee members to have copies of all the ARRL digital survey forms returned to the ARRL. The count ended at 508 copies. If any other copies were received after the deadline date, they were not included.

Those of you who did not send in your survey form and would still like to be heard, please use the form in the January issue of the RJ but send your response to me. I will not be able to include your info in with the others but I will give your comments consideration along with the rest. Again, as I have mentioned in the past, this is a very important issue that will affect all of us who operate the digital modes. Don't pass up this last chance to be heard.

NOIDXCON

Silvano, KB5GL, has sent me an announcement for the upcoming New Orleans International DX Convention to be held August 28- 30, 1992 at the Royal Sonesta Hotel in the heart of the French Quarter district. He also indicated that there would be many world class DXers attending and some will be sharing their experiences with the conventioneers. For more details call 504-586-0300.

ED: It is not always possible to announce all conventions and happenings that occur within our hobby but wherever space allows I try.

1967

In the January issue of the RTTY Journal, rewiring diagrams were given for the Model 19 machine. They were submitted by Everett Hawley, K8JTT, and "Bud" Hawley, K8JND. In the February issue an "end of line" indicator for the Model 15 was shared with all and submitted by George, W8FWG. It was announced in the March issue that a Canadian RTTY group had been formed and was growing fast. Pictures of Gwen, VE3AYL, and Eva, YV1IK/5, shared the front cover of the April issue. Howard, K9IUG, shared his hookup for coupling a Model 15 and Model 14 reperf to obtain the same results as a Model 19 unit covered in the January issue. In the September issue Keith, W8SDZ, presented material on the newly designed Mainline TT/L2 demodulator. A fold out schematic was also included in this issue. To my knowledge this was the only time a fold-out page had ever been used in the RJ. The front cover of the October issue included the FCC's "New Incentive Licensing Rules" that upset the Ham fraternity considerably at the time. Many Hams refused to upgrade their license status because of this program (myself included). Also in this issue Irv, W6FFC, shared with all the modifications necessary to operate RTTY using the Collins KWM2. The November issue contained an article from Eric, VK3KF, for frequency control of receivers. The December issue included the RTTY DX Honor Roll and number one spot was held by FG7XT. And so went 1967.

ARTICLES

Each month the RJ tries to include an article submitted as a stand-lone piece. I would like to continue this program but I need material. Those of you who have an idea, modification, tips, etc., the RJ would like to publish your material and share it with the digital community. You don't need to be an expert writer to submit your material. Submit the material and if I can't make it work, I'll find someone who can make to work. Send your schematics and/or pictures along with your material.

If you feel that what you would like to submit would be best handled in the hands of one of the columnists, then please forward your material directly to the writer involved with the subject. Thanks for sharing.

That's all for this month. Looking forward to seeing many of our subscribers in Dayton. Next month we will have the "DXpedition of the Year" announcement.

de **Dale, W6IWO** ■

PACKET

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LET'S GET Small...

As far as I know, whenever one designs a new device, the prototype is usually larger than the final product. This is usually the result of wanting room for testing and for modification reasons while one proceeds to the final product.

Packet TNCs have taken various forms and designs. I know they were first built on breadboards. From there, they were packaged as a final product. There have been several boards that were designed to fit into a PC directly. Another popular casing style is the one that is used by Kantronics and a couple of other companies. The case is made out of extruded aluminum with two end pieces installed. MFJ and AEA have used the same idea with their cases. They settled on a clamshell case. MFJ has a removable front piece while AEA front pieces are a part of the bottom. There have been a smattering of small case TNCs that take advantage of surface mount parts. One of more popular ones is distributed by Heath.

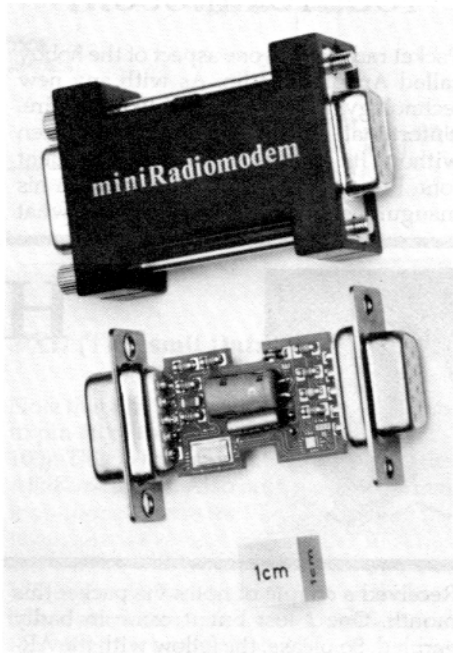
I have received, probably the smallest modem that is out on the market for packet. Note that I said modem and not TNC. A TNC has on board processing to take ASCII text and process it correctly for transmission, control the radio, and decode the received data for display. The device that I am about to describe is a modem that plugs into the COM port jack on the back of an IBM compatible computer.

THE HARDWARE

The PC-COM[1] modem that I am going to describe fits into a 9 pin adapter case. The size case that I am talking about is the same case style that you would find a "gender changer" using. The circuitry of the modem is all surface mount. In the picture (photo 1), you will notice a rectangular area near the upper left of the circuit board. That is an IC die that is surface mounted to the circuit board.

This interesting modem is brought to us by Dr. Karl- Heinz Ilg[1], DK2WV, and crew. The idea as presented is great for portable use or for someone that does not want to spend money for something fancy like a TNC that will do packet and the laundry at the same time. My kudos to the people who came up with the idea of using present technology to make equipment smaller and easier to use. I consider this modem to have the same operational capability as the BayCom modem that I reviewed several months ago.

The kit, as supplied to me, had a manual explaining the system, a 3 1/2" floppy with the software and documentation, radio cable, a min-plug and a micro mini-plug.



THE SOFTWARE

The package contains several programs for making the unit functional with a PC compatible machine. L2.EXE is the actual TNC program. This program is memory resident upon starting and runs as a background process. The program will run and accept traffic from the modem while running. If you want to communicate to L2 (the TNC), you have to use another program that is supplied. When L2 is running, a white flashing rectangle will be in the upper right corner to let you know that the program is running. The program takes up about 75k of memory when present.

SCC.EXE is the terminal program that is used to communicate to L2. When running, the program presents three windows on the screen. The top section is the transmit window, the middle section is the receive window and the bottom section is the monitor window.

Along with the three windows, two status lines are presented. The upper status line presents a wealth of information. The line is divided into 12 sections. The first section displays the status of the station whether it be receiving a packet, transmitting a packet or just standing by. The second section displays the TNC's callsign. The third section presents the state of the selected port. The fourth section displays the memory left for buffers used by the program. The fifth section shows the amount of lines that you can scroll back. This will vary depending on the active ports that you have and the total amount of memory in your computer. The sixth section shows the state of the retry counter. The counter is of the count down type and if the number is approaching zero, disconnect due to excessive retries is close. The seventh position shows the amount of unacknowledged packets. These are packets that have been sent and have not been confirmed as being received. The eighth section displays the current FRACK time. This value will vary depending on the connect path used. The ninth section indicates the channel number. This will always be displaying the number zero with this version of the program. Section ten shows the computer time. Section eleven shows the port number that you are presently communicating with. Section twelve shows whether you are in "insert" or "write-over" mode.

The second status lines displays the ports and the calls that the ports are connected to. If data arrives at a port that you are not actively monitoring, that port and callsign will start to blink.

The commands used are prefaced with a colon. The documentation that is contained in the file pc-com.doc is in English and ready for printing out. The same command structure is used as in Baycom and Digicom64.

The program is capable of running either monochrome or color displays. The program is supposed to be autodetecting in

nature. On my machine, the feature did not work. No big deal. I had to tell the display to work in 43 line mode and the display worked fine. Forty three lines displays much information for you to digest.

RUNNING TIME

I had no problems getting the system to work. I followed the documentation that was included with the system and wired up my radio to it. There is an adjustment present on the modem to set the transmit level. All worked fine. I was having no problems with the operation of the unit until the wideband interference problem showed up. There is a noise source near where I live that throws out some form of broadband noise that takes out the whole 2m band here with S-5 noise.

To be honest with you, I like the system. This would be great for people with laptops who do not have that much space to take up or want great portability. This unit is perfect for that requirement. Remember, the plug-in unit is just a modem. The TNC is software resident. This would not be a unit for anything that would require KISS operation, like TCP/IP. There would have to be a driver specifically written for the PC-COM modem. Now there is a project for someone. I am not sure who will be distributing this package here in the USA, so if you are interested in the package, you will have to contact Dr. Ilg directly.

HOOKUP TIME

Last week I received a new device that bears mentioning. It is called the CA-232 Uni-Cable[2] and it is manufactured by Oak Bay Technologies in Woodinville, WA (206) 883-6563. The cable is designed to work with the PK-232 and just about any mobile radio on the market.

The cable on one end has a plug for connecting to the back of a PK-232. The other end is terminated with an eight pin mic connector. In the middle is a small black box. Inside of the box are the configuration jumpers that are necessary to configure the cable. The device is capable of being configured to talk to Kenwood, ICOM, Yaesu, and Alinco radios that use the eight pin mic connector. The documentation as supplied will tell you where and how to set the jumpers for the particular radio used.

A little birdie tells me that Oak Bay Technologies will soon have a new interface devise. The devise termed CA-232U Uni-Cable™ will virtually interface all TNCs to ANY transceiver that uses an 8 pin microphone connector. Watch for an announcement soon on this inexpensive interface device.

CLONE WARS

Several months ago, AMD offered a reverse-engineered chip duplicating the functions of the Intel 80386 processor. Now, reports have it that AMD is coming out with a reverse-engineered clone of the Intel 80486 processor. From the information that I have been able to receive, the AMD 486 chip will be in six versions and probably have the same design features as the AMD 386 chip with regards to speed range and power conservation. The AMD 80486 chip is in the sample process now. If AMD is capable of ramping up production quickly, then expect the chips to start showing up by the end of the year. This will increase the pressure on the 486 based motherboard manufacturers to lower their prices. This may wipe out any residual demand for 80286 based machines. Wouldn't it be nice if the prices for 486 based motherboards dropped $200.00. Then of course when the next generation of 80x86 chip is released.

FOOD FOR THOUGHT

Packet radio is just one aspect of the hobby called Amateur Radio. As with any new technology, it has taken off like wildfire. Unfortunately, this growth has not been without its problems. The late President John F. Kennedy made a statement in his inaugural speech stating "... Ask not what your country can do for you, but ask what you can do for your country." This can be applied to Amateur Radio as well. There are too many operators out there that have the "ME first" attitude. The hobby may be growing in terms of numbers but in common courtesy, it is shrinking. We all have to coexist together with what we have.

I realize that this may sound like a flame. I always ask if the frequency is busy on HF SSB before calling CQ. This is common courtesy. If I want to put up a node, it would serve as an addition to the the present network filling a need, not for ego gratification. This is a common courtesy. Some time ago I coined the term "Egopeaters," to describe the existence of a digipeater or node that is installed just to satisfy the ego of the Ham that put it up. This fits the bill exactly. We need to moderate our actions and not ruffle the feathers of people outside our collective sphere of interest. Enjoy our phase of the hobby and remember, we have to share the road with other operators out there too.

de Richard, N6NKO ■

1. Dr. Karl H. Ilg, DK2WV, C/O Deutsche Aerospace, Postfach 440320, D-8000 Muchen 44, Germany

2. Oak Bay Technologies, Inc., P.O. BOX 911, Woodinville, WA 98072-0911 or Evelyn Garrison & Associates, 21704 S.E. 35th St., Issaquah, WA 98027, (206) 557-9611, FAX (206) 557-9612

HARDWARE

Jay Townsend, WS7I
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Spokane, WA 99210

Received a couple of notes via packet this month. One I lost but it came in badly garbled. So please, the fellow with the ARIES II hookup question please drop me a note again via the mail.

It's fantastic that so many of the manufactures and indeed the major figures of those companies have taken time out of their busy schedules to give us and in particular me, information to share. This month as promised some information on hooking the ST6 up to the PK232. First comes a modification and/or enhancement that may make the entire process not needed.

AEA'S FACTORY APPROVED BAUDOT & AMTOR OPTIMIZATION

Mike Lamb, CEO of AEA dropped into my mailbag this gem, as I previewed this months column on the PK232 and external modem hookup "...if the intent is to gain enhanced performance for low speed Baudot and AMTOR. And that is the goal, I can save your readers some time, hassle and perhaps even some money." (This sure hit me as timely information! Thanks Mike Lamb and AEA.)

"The modification consists of simply changing resistors R42, R52, R62, and R72 from 174K OHM 1% to 432K OHM 1%. Should any of your readers not have any 432K OHM 1% resistors, they can send a self-addressed, stamped envelope to AEA with a request for the 'AMTOR PK-232, Modification Kit' and we [AEA] will return the envelope with parts at no charge along with four each 174K OHM resistors, should they want to return the unit to its original condition."

It is important to note that 300 baud packet

and ASCII operation will be lost in performing this modification. Mike goes on in his letter to indicate that the PK232's performance will equal or exceed virtually any commercial SITOR unit on the market.

I plan to perform this modification and will let you know my results in a future article.

Now for the second wonderful mail this month. Bill Henry details for me and thus you RS-232 operation on the ST-6, the ST-5000 and the ST-6000 that were and are some of the nicest units produced for digital use. Bill writes and I have transcribed his entire ST-6 section for this months hardware hookups!

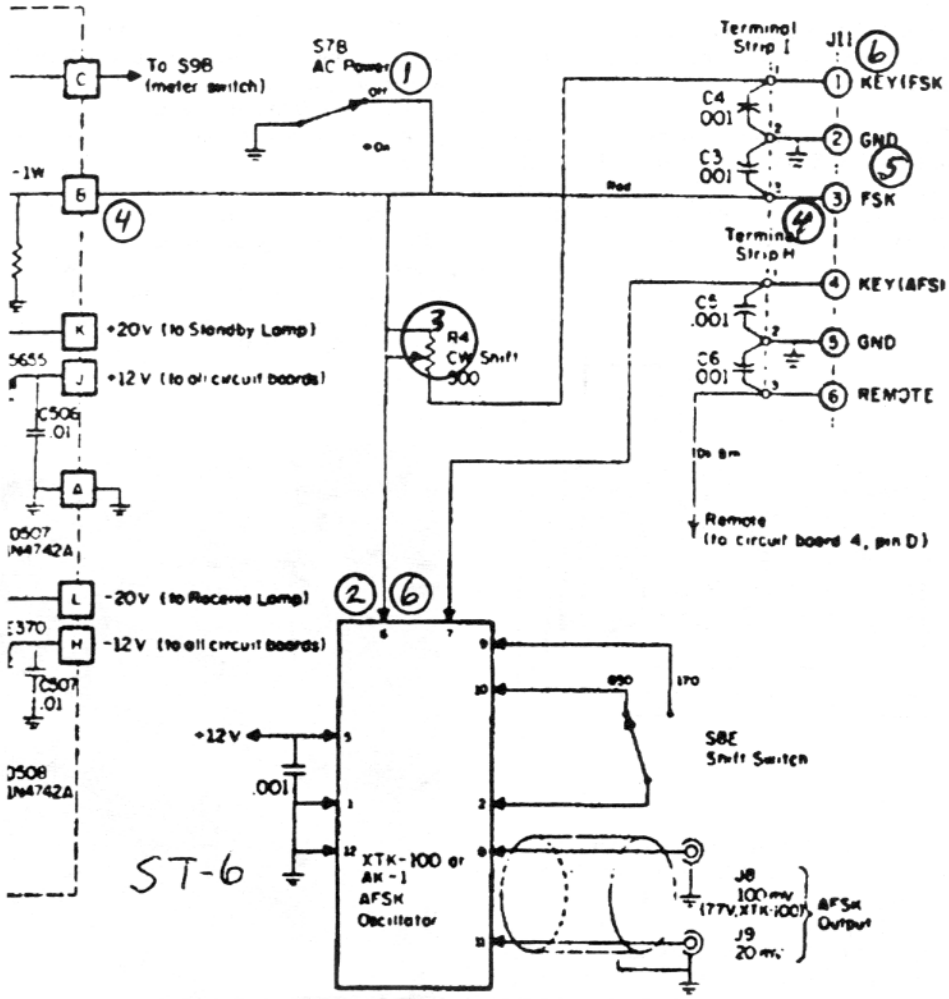
RS-232 WITH A COUPLE OF CUTS AND JUMPERS ON A ST-6

The most common version that we sold included the XTK-100 crystal AFSK oscillator board; very early ST-6s had the AK-1 board. Connections to the XTK-100 and AK-1 are identical; either plugs into slot 1 of the HAL ST-6 cabinet. The ST-6 was also sold as parts kits, with and without cabinets; some even without HAL boards. I must restrict my comments to ST-6's that used HAL boards and the HAL cabinet.

RS-232 RXD (Receive Data) Output

Ref: ST-6 Manual, Page 29, Figure 7 (Circuit Board 5). Note pin "B" on circuit board 5. This is a voltage divider output from the loop supply. It also provides an "RS-232 compatible" receive data output. To understand how it works, note that the loop keying transistor Q301 (Figure 6, board #3) connects through the loop connector (J12) and meter switch (S9) to the plus output of the loop power supply (board #5, pin "C"). Received MARK data keys the loop supply plus terminal to ground. Note also that the minus terminal of the loop supply (board #5 pin "F") returns to ground through the loop current resistor R9. Therefore, when received data is MARK, the loop plus terminal is grounded and there is about -150 volts DC at the loop minus terminal (pin "F"). The dual divider of R502/R504 and then R503/R505 lowers this to about -15 VDC (4.7K load). When SPACE is received, the keyer transistor is open, no loop current flows through R9, and pin "C" goes up to +150 VDC about ground. Again, this is divided by the resistors to give about +15 DC at pin "B". So, board #5, pin "B" produces an "RS-232 compatible" RXD output — with a qualification. You need to be sure that you have a 4.7K load between pin "B" and ground.

Note that board #5 pin "B" connects via a wire to rear panel connector J11, pin 3 — labeled "FSK". This connection therefore is an RS-232 compatible RXD output.



TXD (Transmit Data) Output

Note that pin "B" of board #5 also connects to pin #6 of the AFSK card (AK-1 or XTK-100). This is the transmit data input to the AFSK oscillator. Also note that the normal loop connection to the ST-6 was to wire the teleprinter keyboard and printer in series and connect them between pins 1 and 4 of J12 (Figure 6). Therefore, typing on the keyboard also interrupts the loop current and the voltage at board #5 pin "B" acts just like it did on receive — and drives the TXD input to the AFSK oscillator. This was great for simple loop circuits but needs a change to work with computers — you need to be able to drive the AFSK oscillator separate from the receive circuits. This requires a simple modification.

CAUTION: The fold-out drawing in the ST-6 manual represents just one of quite a few wiring harnesses that have been used on the ST-6; HAL had 3 different harnesses I know of, and many kit builders "rolled their own." Wire colors on this drawing are also not necessarily what you will find inside. For this reason, I will make references to the schematics only and you may need to do some wire tracing on your own ST-6.

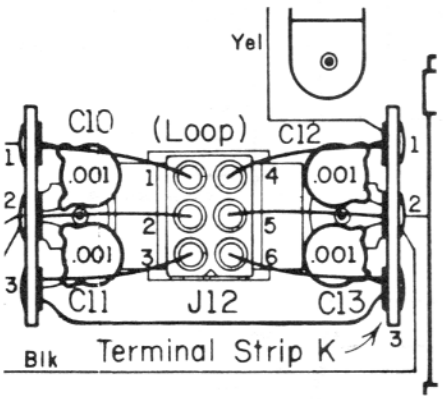
Jay's Note: *This means wire trace your ST-6!*

ST-6 Modification to separate RXD and TXD for RS-232 (see drawing above, circled numbers relate to text below except for #7. See second drawing for number 7.))

- **1. Disconnect the wire between S7B and board 5 pin "B".**
- **2. Disconnect the wire at pin 6 of the AFSK connector that goes to board #5 pin "B".**
- **3. Disconnect both wires between the rear panel "CW SHIFT" pot and connector J11. This pot will no longer be used.**
- **4. Use an ohm-meter to confirm that there is still a wire connection between board #5 pin "B" and connector J11, pin 3.**
- **5. Add a 4.7K, 1/2 Watt resistor between J11, pin 3 and ground, pin 2 (terminal strip "I", pin 3 on HAL-wired cabinets).**
- **6. Add a new wire between pin 6 of the AFSK board connector and pin 1 of connector J11.**
- **7. Be sure that you plug-in either a loop machine or a wire jumper between pins 1 and 4 of connector J12.**

RS-232 RDX output is now on J11 pin 3; RS-232 TXD input is now on J11 pin 1; ground is on pin 2.

This is the minimum change to operate full-duplex (FDX) RS-232 data I/O with the ST-6. The only change in operation is that the AFSK oscillator tones will no longer echo received data.



Drawing 2

One "added feature" that some may wish to consider is RS-232 control of the ST-6 autostart feature. When the "REMOTE" input (J11, pin 6) is grounded, the RXD loop keyer transistor (Q307) is locked in MARK-hold and the motor relay is turned ON. This feature may not even be needed for computer connection, but some folks like to use the RS-232 RTS (Request to Send) signal to control transmit/receive. Unfortunately, RTS is +V for "transmit" and -V to "receive." So, you will have to add an NPN switch transistor to control the ST-6 "Remote" input. Connect as follows:

- **1. NPN transistor = MPS3395 or 2N2222/etc.**
- **2. Ground the emitter**
- **3. RS-232 RTS signal through 10K, 1/4W resistor to base**
- **4. 1N4148 diode anode to ground, cathode to NPN base**
- **5. NPN collector to ST-6 "Remote".**

Well that's how to change the ST-6 into a RS-232 computer usable terminal unit and many thanks to the folks at HAL Communication. Please direct any comments about this modification directly to me, rather than to anyone at HAL.

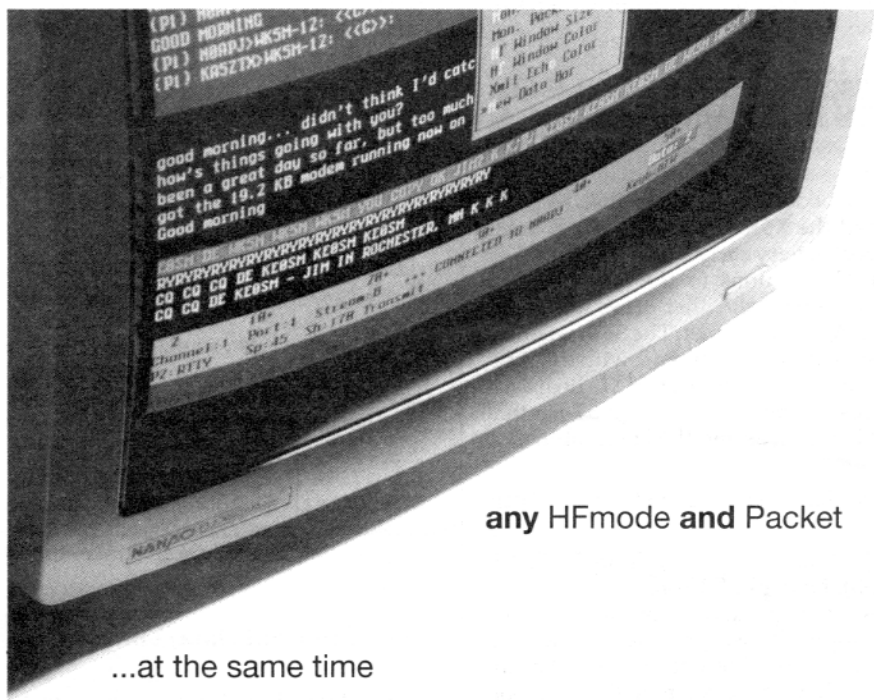
Now for the hookup to the PK232. Since for purposes of the AEA PK232 it's only necessary to use the receive side of things since the unit handles transmit on Baudot or AMTOR fine, it's only necessary to use the ST-6 for demodulation of the audio. Feed audio to the ST-6 and take the RXD (receive data) and feed it to the PK232 external modem. I would suggest that you examine the PK-232 schematic and add a switch to the front panel to switch between external modem and the internal. In this way you retain 300 baud facilities and you can also quickly see if the external unit is performing any better.

This procedure is similar for most terminal units and the PK232. My favorite at the present time is the DOVETRON which does regenerative Baudot and seems to work quite well. I would, however, sure try the modification that AEA suggests before going to a lot of extra trouble with an external unit.

Next month a report on Dayton. Keep the letters flowing into the Mailbag and we will see what other gems that we can come up with in the future. Again a hearty thanks to our digital manufactures and their sharing of information.

73, de Jay, Ws7i ■

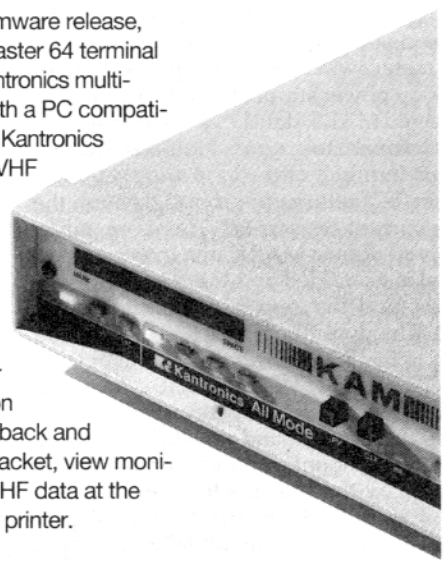
WS7I @ WS7I.#SPOKN.WA.USA.NA
FidoNet 346/3.0



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
913.842.7745 TELCO BBS 913.842.4678

SOFTWARE

Jim Mortensen, N2HOS
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ENVIRONMENTS —- PART I

Dayton 92! I challenge you to name something even remotely related to radio, not on sale in a wide range of sizes, shapes and colors..new and used. Computers, too. It is *nirvana* for the hardware junkies, a social subclass populated to a significant degree by licensed Hams. And with computer prices down a third or more from year ago levels, frenetic activity will be the order of the day. Just as it always is in Singapore, Hong Kong and those other hi-tech bazaars of the world.

Computers may outsell HF transceivers at Dayton this year. None of us will be able to count the number of Hams buying the first piece of serious computer hardware; the flock migrating from C-64 to DOS machines; those going from 8086 clunkers to 386/486 speed demons; those call signs with two or more computers. But computers are pervasive and the perceived need to upgrade is every bit as urgent as my youthful albeit unsuccessful desire to get my father to trade in the model A Ford for the new 1935 V-8.

Shopping and paying for the new machine (and getting it home from Dayton) may seem the hard part. Sorry, that is but the first chapter. When you have it set up, running, the DOS prompt at the appropriate spot in the upper left hand corner, the real work begins. Even if your new hardware arrived with DOS 5.0 and a stack of other software installed on the hard disk, the process of getting down to the basics is time consuming. If you are new to the DOS world it can be downright disastrous.

Many problems (or opportunities, depending on your point-of-view) cry for attention. But the principle *question* revolves around the environment of choice; the principle *task*, the ensuing installation and fine-tuning of your selection. The process can at times be a) fun b) painful c) frustrating but most assuredly will be d) a "learning" experience. Good luck.

Should you join the crowd and use Windows? Seven million copies can't be wrong. Or can they? Stay off the band wagon for a moment or two, even if Windows 3.0 came with your new computer. If we were logical, right thinking folk we would think through our needs and desires and buy just the right machine and software. But being human and hi-tech experts as well, we buy the machine first because it is such a "powerful computer and a darned good buy." (That is particularly true in the strange buy-them-while-this-price-lasts atmosphere in Dayton.) Then we try to make it work, sometimes more than once.

Planning? My good friend and neighbor found a new Series 80 IBM 386/25 machine a month ago at an unbeatable price. It was a real bargain. Since he wanted the very best he bought it and the same day ordered the HAL PCI-3000. The board arrived. It didn't fit, and it could not be made to fit. The Series 80 is the one, rare exception to the rule of PC compatibility. Sadder but wiser, he will make do but he will be unhappy doing it. We never learn.

Whatever you lug home from this year's extravaganza it is your machine, and it's architecture, and the software you use each day, and your expectations that determine the direction you should take. Here are some thoughts on the subject. My personal prejudices and experience lead me to conclude that the options are well defined.

First, if you have a 286 machine (or lower) with one (or less) of RAM, and intend to use the machine for one application most of the time, then get a program like DIRECT ACCESS (from Fifth Generation Software) or DESKMATE (from Radio shack), or MENU (an excellent shareware program). Don't complicate your life or swamp your computer with an environment that is not needed. More is not better in this case.

Second, if you have a 286 machine (or higher) with two megabytes of RAM (or more) and need multi-tasking for task-switching of DOS software, call up your favorite software vendor and order Desqview with QEMM right now. We will come back to this subject in a moment.

Third, if you bought a whopper, a 386SX (or higher) with 4 megabytes of RAM (or more), running at 20 MHz (or faster) with Super VGA color and a substantial hard drive, and if you are convinced that you need Windows software like EXCEL, or WORD, then go ahead and plunge. But beware. Remember, Windows was created for a big, fast machine running graphical software. Anything outside that mold leads to compromises, potential crashes, and unbearable slowness. Don't be mislead by claims to the contrary. And do not think for a moment that high powered computing takes place only in a Windows environment. There are options, one an environment many think to be at least as good as the Windows world.

Desqview has survived the Windows onslaught...and prospered. Quarterdeck[1] authored the program and has taken it through several versions, mostly to solid reviews. No easy definition of the program comes to mind. The one line description of version 2.0 was "multi-window integrator." Perhaps that sounded too much like MS-Windows, so version 2.2 more accurately portrayed itself as a "multi-tasking, multi- windowing DOS control program." That's better, but this program is more than that as well.

DV generally comes with Quarterdeck Extended Memory Manager (QEMM), the long term champion in its field. There is no room to discuss QEMM in this month's column, but if you are interested in its inner workings, let me know and we will take it up at a later date. Be assured that it has an enviable reputation, it is easy to install and, once installed can be forgotten.

The two programs (DV and QEMM) combine to present a package full to the brim of features that change your life at the keyboard. A quick story illuminates the subject. One night last December, Steve, K4CJX, (Nashville, NTS/Aplink guru) and I were on AMTOR. My 386 machine was running the DX cluster in one window, Steve was overworking my BBS in the second while I downloaded forty five minutes worth of data (also from Steve) through the modem port in another! All of this buzzed along at the same time. Steve, then coaching me in setting up APlink, suggested that I open another window and get to the DOS prompt and do something or other. I replied, "Dammit Steve, I have enough going on here. One more window will bring down both me and the whole system." And I waited until one of the windows could be closed (the only time I have ever slowed him down). "Try that in Windows," he said. He was right of course, he always is.

Let's assume you now are the proud owner of a 286 or 386Sx machine with 2 megs of RAM and a 40 meg hard disk. And that you run only DOS programs, including a work processor, a financial management program and that you use the computer for RTTY/AMTOR and logging as well. In this environment you can multi-task, running AMTOR in the background (perhaps downloading a long DX bulletin from an APlink station), while balancing your check book in a spreadsheet; or writing a letter in the DOS text editor of your choice;

or doing a crossword puzzle. Or, you might choose the all-radio approach and run RTTY/AMTOR in one window, the DX Cluster in the next, a modem in another and Mini-Prop in the fourth. Suit yourself. Any of the programs can be running in the background while you are using another application in the foreground.

Either way you have the option of running DV with a full screen for each application or running with small windows on a single screen. While the small windows can be zoomed with two key strokes (ALT,Z) I choose to run full screen. There is less visual distraction. And after all, switching full screens is but a two keystroke chore as well. Make is a simple ALT 1 (or 2, 3 or 4) by writing a batch file that boots to DV with the programs loaded in the same sequence each time. Thus ALT 2 will always bring up your RTTY program from any place in DV. There is no waiting, no lengthy disk access. Bang! You are in the program and ready to go. DV has power.

It is difficult to understand, but if you install four programs this way you really do have the equivalent of four computers at your fingertips. Of course they share the resources but accomplish it so transparently that there is no visible delay or loss of speed. Leave the word processor in mid-sentence, flip to RTTY and work that rare DX or keep a sked, check the DX Cluster and switch back to the word processor and find it exactly the way you left it. Or switch out of an active QSO to get a file from another program, then return. Not a stitch is dropped. DV has substance.

If you wish to run full windows and if you need multi-tasking, optimize your Setup by typing F1 for Advanced Options. In the "Window Position" section, type 25 and 80 in all three boxes. Then type Y at "Runs In Background?" and Y for "Share CPU In Foregrounds?" These steps divide your resource appropriately and give the foreground program priority. If you have some rare combination of programs that conflict with that setting, you may need to make changes in the "Tune Performance" options to the Rearrange menu.

A few words to the wise. Your 2 megabytes of RAM can handle three or four average programs in this multi-tasking mode. But don't load a full house of programs unless you need them. Load the two or three basic applications, then call up the next one as needed from the DV menu. If you use Mini-Prop once every three weeks, let it rest on the hard disk. Two keystrokes will launch it in two seconds. Even in the task- switching mode where there in no background processing, it is best to stick with your core software because it makes your keyboard life simpler. Minimalism works and you can KISS[2]

This multi-tasking magic is the meat and potatoes of DV but not the entire meal. The LEARN function is a powerful program in it's own right. Write macros to simplify and customize your use of DV, yes. But more importantly use the capability to streamline the applications you run in the DV environment. Overhaul a complex command structure in any program or change the very nature of the software. LEARN can be your best friend.

Remember last month, I mentioned that I used the LEARN routines to run my HAL PCI-3000 in the ARRL RTTY contest. That led to the discovery of a Ham who really knows what to do with LEARN and the HAL board. Ed, AB4PY, wrote..."I have programed LEARN to use the 'key pad' to instantly switch from CW (-key) to RTTY (+key) to AMTOR Listen (Enter key). This is instant mode switching. The log book jumps up by tapping the INS key and the DXCC records by tapping the DEL key...the 7 key turns the xmtr on (CW) and drops my call twice and turnsthe xmtr off...the 8 key does the same but sends 'R 599 de AB4PY TU.' The 9 key 'R 599 TU' and on the next row, the 4,5 and 6 keys are used similarly for RTTY buffers, including the xmtr on-off functions. The bottom three keys are changed all the time...contesting one week..canned greetings to a guy I have been chasing for an hour. It is so easy to program the keys using LEARN that I have become a DVholic."

Thanks to Ed for demonstrating the muscle of LEARN. If you use the PCI-3000, you will instantly understand that this creative use of the function transforms the hardware. And it can be done with any program. Think what you could do with something like the old Wordstar!

This is heavy stuff, but it is hardly all of DV's strength. DV requires a small fraction of the system overhead used by Windows and that means SPEED and STABILITY. With 2 megs of RAM, it is simple to run three or four DOS programs simultaneously without any penalty or trade-offs. And without system crashes. DV tolerates far more stupidity at the keyboard than does Windows and has far fewer unexplained internal conflicts. In short it can best meet the needs of many digital Hams.

DV represents a modest investment ($135 at PC Connection including QEMM and Manifest). It loads easily and simple menus guide you through the basic program. There are no booby traps.

In many ways, DV is the ultimate expression of the DOS world while Windows is a crude introduction to the GUI world that is yet to come. (Someday, watch X-Windows under Unix to see what GUI is all about.) Version 3.01 solves some problems, though it is more of a "fix" than an improvement. We will look at Windows in Part II. Meanwhile, DV has a secure place in the PC world for some years to come. Try it. Let me hear from you about your experiences.

(A personal note: while I write this, Gen, my XYL is still in the hospital but finally out of the ICU. Special thanks to those around the world who sent her greetings. We both appreciated them very much.)

73 de **Jim, N2HOS** ■

1. Quarterdeck Office Systems, 150 Pico Blvd, Santa Monica, CA 90405

2. Keep It Simple Stupid!

QSL ROUTES

Bestsy Townsend, WV7Y
P.O. BOX 644
Spokane, WA 99210

These Qsl routes were gleaned from the WS7I/PacketCluster but, for the most part, come from the DX1 reports. A special thanks to Jay, Ws7i, for his routes. The OHIO DX list is having good packet coverage of upcoming events. For the latest most accurate Qsl routes I still suggest the W6GO/K6HHD list. Don't forget to support the IRDXA who make some of these rare places possible.

73 and 88 de Betsy, WV7Y ■

7Q7BR QSL via JK3GAD
7Q7XX Qsl Via JA3RRA
8P6SA QSL Via 91 CBA
C31HK Fred is ex C31LHK CP1AA Qsl Via CP1BA
GJ4YMX Qsl Dave Warncken, POB 437, Jersey, C.I.
H44JS QSL Qsl Via H4 Bureau, Box 418, Honiara
HZ1AB QSL Via K8PYD
KH7/KH6JEB Qsl Rick KH6JEB
KH0/JL1UEV QSL Via JL1UEV
LY1BY QSL via Box 1029, Vilius 232001, Lithuania
FO0CI Qsl Via N7QQ
OX3EY QSL Via WB4UHL
PJ9JT QSL Qsl Via W1AX
P29RB Box 73, Kokopo, New Guinea
RT8JM Box 255, Dushabe 734025, Tajik
TY1LJ is 9X5LJ in Benin for next month
TZ6VV Qsl Via N0BLD
VK9CL & VK9CK Qsl via F8IMS
VP8SSI QSL Via KA6V
VQ9JY QSL Via KB7CDA
VR6WH Bill Haig, 12 Kauri Loor Rd, Ortia, Auckland 1207, NZ
VS6AI Qsl Direct Box 5765, Hong Kong
VP8SSI Qsl Via KA6V for RTTY
VP8CFM QSL via GM4KLO
VP9/G0AZT Eddie, Box 5194, Richmond CA 94805
YA5MM QSL Box 321, Sofia 1000, Bulgaria
ZA1TAA Dajlan, Box 66, Tirana

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1991 CQ-RTTY Journal WW RTTY Contest Results

Number groups after call letters denote the following: Classification (SOB = Single Operator, All Band), (SOA = Single Operator All Band Assisted), (MOS = Multi - Op, Single Transmitter), (MOM = Mutli -Op Multi - Transmitter), Final Score, Number of QSOs, Points, Zones, Countries, States and Canadian Provinces. Winners are in **BOLD FACE.**

AFRICA

• CANARY ISLANDS

EA8AKQ	SOB	266508	360	1346	44	99	55
EA8AZM	SOB	78375	222	627	26	49	50

• MADERI A ISLANDS

CT3M	SOB	1075584	941	2801	82	213	89

• MELLIA

EA9MY	SOB	196800	341	1025	34	136	22

• MOROCCO

CN8NS	14	17629	97	289	14	32	15

• REP OF S. AFRICA

ZS6BCR	28	307746	742	2214	26	71	42

• SIERRA LEONE

9L1US	SOB	866880	864	2580	63	156	117

ASIA

• AS RUSSIA

UZ9CWA	MOS	1793925	1205	3417	118	313	94
UW9CX	14	76923	281	777	24	52	23
RA9UK	SOB	59817	206	471	43	84	0
UA9QT	14	8507	61	181	10	29	8
UA9MBO	21	4020	52	134	8	22	0

• CHINA

BZ4SAA	SOB	107819	300	787	39	69	29

• INDIA

VU2SJV	SOB	184864	306	848	60	147	11

• ISRAEL

4X6UO	SOB	141764	303	854	41	93	32

• JAPAN

JR2CFD	SOB	392814	418	1251	86	164	64
JH1QDB	SOB	237804	327	894	75	131	60
JJ3YBB	MOS	184756	307	884	58	116	35
JA2IVY	SOB	94688	193	538	54	95	27
JR1IJV	28	37536	142	391	26	41	29
JE2UFF	14	31506	128	354	26	52	11
JH7QXJ	14	20636	99	268	25	40	12
JA2DOU	SOB	15000	83	200	26	39	10
JA7NJN/1	SOB	8352	46	116	28	37	7
JA8EAT	7	5945	55	145	13	19	9
JA3BSH	SOB	4278	34	93	19	24	3
JS1OYN	SOB	4067	34	83	22	24	3

• KAZAKH

UL7MU	SOB	24055	104	283	30	53	2

• MALAYSIA

9M2AX	SOB	22387	166	367	24	36	1

• MONGOLIA

JT1T	MOS	50688	240	576	28	55	5

• THAiLAND

HS0ZAA	SOB	74420	264	610	40	70	12

EUROPE

• AUSTRIA

OE3XCW	MOS	581571	622	1611	82	195	84

• AZORE ISLANDS

CU3LF	SOB	34814	146	338	24	55	24

• BALEARIC ISLANDS

EA6ZP	MOS	387346	553	1322	57	159	77
EA6ZS	SOB	1128	23	47	6	18	0

• BELGIUM

ON4UN	SOB	788322	746	1961	92	209	101

• BULGARIA

LZ2KIM	MOS	761374	829	1913	83	225	90
LZ2TU	SOB	561798	635	1587	76	197	81
LZ1BG	21	95235	360	907	24	54	27
LZ1BJ	SOB	13203	71	163	24	54	3

• BYELORUSSIA

UC2ADX	SOB	15625	194	125	33	73	19
RC2AZ	14	4640	60	116	7	21	12

• CZECHOSLOVAKIA

OK3RJB	MOS	141904	298	724	52	96	48
OK1AJN	SOB	85928	207	467	49	114	21

• DENMARK

OZ1FGS	SOB	138170	266	674	55	115	35
OZ7XE	14	10665	113	237	11	33	1

• ENGLAND

G0ARF	SOB	317124	450	1149	66	135	75
G4MKO	SOB	67646	195	454	35	83	31
G3XVF	SOB	51060	147	345	37	91	20
G4XDD	SOB	25194	106	247	31	61	10

• ESTONIA

ES7FU	SOB	12376	91	221	15	41	0
ES7JW	28	3441	53	93	12	23	2

• EU RUSSIA

UA1OJ	SOB	155136	363	808	52	134	6
UA3TN	SOB	80444	215	476	46	116	7
UZ6LWZ	MOS	62592	220	489	42	86	0
RA3DX	14	33866	188	413	19	55	8
UW3AT	SOB	16685	138	235	22	49	0

• FINLAND

OF2BP	SOB	367934	518	1282	70	166	51
OH2LU	SOB	151496	235	653	61	156	15
OH5MN/2	SOB	1728	30	36	18	30	0

• FRANCE

F6EKX	SOB	172224	329	832	45	97	65
FF6MN	MOS	89775	282	513	54	121	0
F2AR	SOB	66755	163	395	48	93	28
FF6KRJ	MOS	50318	144	362	39	72	28
FF6KAW	14	44200	182	425	29	55	20
F6FGY	21	24386	106	274	20	45	24

• FRANZ JOSEF LAND

4K2OIL	SOB	48952	164	422	29	63	24

• GERMANY

DL0GK	MOS	557418	614	1523	86	205	75
DL4MCF	SOB	242182	337	838	72	176	41
DL6RAI	SOB	211932	319	812	65	141	55
Y32WF	SOB	93780	197	521	50	91	39
DF9IZ/P	SOB	61374	170	386	46	89	24
DJ2YE	SOB	54756	155	351	43	113	0
Y26GA	SOB	33759	175	341	20	76	3
DL9MBZ	14	22119	142	303	15	46	12
DK3GI	SOB	19012	75	196	35	49	13
DL1BFZ	14	11716	89	202	15	38	5
DA1SC	21	10384	69	176	16	31	12
DK5KJ	SOB	3542	35	77	16	27	3
DF6EX	14	2964	34	78	10	25	3
Y27TN/A	14	2208	29	69	10	19	3
DJ4KW	14	2145	30	65	10	20	3
DL0ER	SOB	2014	23	53	14	21	3
DK3GI	28	1311	22	57	11	12	0
DL7MAE	SOB	814	13	37	9	13	0
Y21NM	SOB	350	8	25	6	8	0

• GREECE

SV1BDO	SOB	24592	97	232	31	62	13

• HUNGARY

HA6PX	SOB	601965	685	1715	78	185	88
HA8EK	SOB	205904	320	757	87	142	43
HA5CP	SOB	191772	307	761	71	148	33
HA0IV	SOB	80371	189	449	53	105	21
HA6ZQ	21	18392	100	242	17	41	18
HA5AEZ	SOB	11880	68	165	25	44	3

• ITALY

I2SVA	SOB	407220	486	1234	69	188	73
I2DMI	SOB	404922	479	1302	96	129	86
I2TQU	SOB	254687	425	991	64	134	59
IK1HSR	SOB	87690	229	474	59	126	0
I4XQG	SOB	58562	136	329	46	104	28
IV3KCB	21	55833	202	503	21	65	25
I2KFW	14	54944	231	544	21	58	22
IO0KHP	SOB	28980	101	230	40	73	13

IK1HXN	28	25384	143	334	23	53	0
IK2IKW	SOB	15840	65	160	39	54	6
IK2ODI	SOB	3936	36	82	21	27	0
I2FUM	7	1860	29	62	7	21	2

• KALININGRAD

UW2F	MOS	1524978	1172	3087	108	275	111

• LIECHTENSTEIN

HB0/HB9NL	SOB	264729	433	1117	52	125	60

• LITHUANIA

LY2WW	MOM	927710	916	2285	87	236	83

• LUXEMBOURG

LX1TO	SOB	57375	157	375	39	84	30

• MOLDAVIA

RO4OA	SOB	238055	404	1013	67	134	34
UO4OWQ	MOS	162450	423	950	38	114	19
UO4OF	21	1012	20	46	7	15	0

• NETHERLANDS

PA3EWP	SOB	27104	102	242	36	70	6
PA0YN	SOB	10650	59	142	29	40	6

• NORWAY

LA7AJ	SOB	29640	88	228	51	77	2

• POLAND

SP3SUN	SOB	255136	407	952	71	164	33
SP3PLD	MOS	102564	217	518	57	121	20
SP3XR	SOB	78218	231	518	48	96	7
SP4EEZ	SOB	34080	126	284	38	73	9
SP6CYV	SOB	26790	139	285	29	60	5
SP2UUU	21	21597	123	313	15	39	15
SP9TCE	SOB	12744	80	177	24	45	3
SP7FQI	SOB	4708	50	107	12	29	3
SP9BCH	14	2720	66	80	11	23	0
SP2FN	21	1944	33	81	8	14	2

• PORTUGAL

CT1DIZ	SOB	122322	308	703	45	106	23

• ROMANIA

YO6JN	SOB	171189	350	827	54	127	26
YO5BAT	21	11918	86	202	18	34	7

• SICILY

IT9OCP	SOB	178978	322	821	44	110	64

• SPAIN

EA7TV	SOB	156032	324	736	42	100	70
EA7EL	SOB	115092	219	556	48	106	53
EA1QK	14	78645	291	749	19	50	36
EA3GCV	28	44928	180	468	19	52	25
EA7CWA	SOB	2627	29	71	14	23	0
EC2AXM	21	756	18	36	4	17	0
EA1EZA	28	238	7	17	6	7	1

• SWEDEN

SM5FUG	SOB	340827	450	1103	75	176	58
SM0HTO	28	64974	267	637	27	55	20
SM4RGD	21	4320	51	108	14	25	1
SM4CMG	14	3096	27	72	15	22	6
SM5PPS	28	110	6	11	4		6

• SWITZERLAND

HE7DCQ	SOB	419512	529	1279	80	189	59
HB9CEY	SOB	74160	181	412	85	79	16
HE7FMB	SOB	57681	165	377	44	92	17

• UKRAINE

UB4HQ	SOB	265825	460	1085	65	153	27
UB4LWC	MOS	100464	265	598	49	111	8
UB4AR	14	4968	65	138	6	30	0

• YUGOSLAVIA

YT3T	MOS	670179	703	1759	77	211	93
YU3MJ	SOB	40430	135	311	39	73	18
YT3HM	3.5	2184	42	84	5	21	0

NORTH AMERICA

• ALASKA

AL7NK	SOB	138288	356	804	29	45	98
NL7DU	MOS	37905	157	361	26	15	64

• ANTIGUA & BARBUDA

V2/G0AZT	MOS	1680607	1577	3743	78	180	191

• CANADA

VE7ZZZ	MOS	755895	1014	2191	61	110	174
CK7C	SOB	734704	915	1954	79	103	194
VE7KD	SOB	264616	493	1067	44	64	140
VE6ZX	SOB	166559	394	863	35	46	112
VE3FJB	SOB	143220	282	651	52	86	82
VE4AIY	SOB	128674	334	707	38	48	96
VE6KRR	SOB	110591	302	611	35	37	109
VE7BTO	SOB	91670	247	515	42	48	88
VE7IRA	SOA	83803	224	463	36	44	101
VE3UR	MOS	71478	195	418	35	53	83
VE2JR	SOB	44088	136	334	35	60	37
VE5SF	SOB	33402	145	293	26	25	63
VE7IN	14	26228	150	316	17	23	43
VE3JAN	14	22695	115	255	16	35	38

• DOMINCAN REPUBLIC

HI8A	SOB	522821	795	1703	55	83	169

• PANAMA

HP1KZ	SOB	4048	43	88	12	9	25

• PUERTO RICO

WP4IIW	SOB	10736	80	176	14	8	39

• ST. MAARTEN

PJ8UQ	14	14950	100	230	16	29	20

• TURKS & CAICOS

VP5JM	SOB	479449	781	1823	38	98	127

• USA

W3LPL	MOM	1968600	1707	3281	106	266	228
WA7EGA	MOS	899000	1147	1798	91	192	217
W2UP	SOB	636615	751	1505	79	179	165
W3FV	SOB	578578	625	1547	65	157	152
W4AQL	MOS	492415	816	1279	78	135	172
N4CC	SOB	455896	674	1163	73	148	171
KY1F	MOS	443300	750	1364	55	111	159
WF5T	SOB	380904	686	1076	73	112	169
N6RZ	MOS	363240	639	1009	73	111	176
N6GG	SOB	359600	526	1160	64	97	149
N9ITX	SOB	331899	602	1047	56	113	148
AA4M/6	SOA	291580	640	956	61	85	159
WF1B	MOS	283927	499	863	58	122	149
N2DL	SOB	273735	431	869	63	139	113
WF7B	SOB	254752	467	838	57	115	132
WB8YJF	SOB	228344	452	782	58	108	126
N2FF	SOB	216976	391	764	62	118	104
K6WZ	SOB	213213	557	781	45	71	157
W9KDX	SOA	191142	456	738	44	87	128
KB3PW	SOB	174246	324	771	44	88	94
WA6SDU	SOB	168912	380	612	60	78	138
KA4RRU	SOB	168600	324	600	61	112	108
W1BYH	SOB	162606	312	661	55	75	116
N4ROL	SOA	150000	372	600	46	74	130
KD2YG	SOB	140208	274	552	56	106	92
KK4DK	SOB	131157	293	531	51	92	104
KD4MM	SOB	130095	328	531	46	95	104
KB4GID	SOB	128691	271	543	49	72	116
N1FTD	SOB	127125	283	565	45	102	78
W4TOY	SOB	123648	356	552	51	77	96
W9KE	SOB	118424	321	524	49	84	93
WA4DAZ	SOA	111860	287	476	49	76	110
WW8Q	SOB	111320	319	506	43	71	106
N4LIH	SOB	110075	289	425	39	136	84
N5NMX	MOS	99225	289	441	49	67	109
KA5YSY	21	97408	421	761	23	57	48
W9FFC/2	SOB	95013	225	459	46	89	72
N3HHE	SOA	94612	223	436	49	88	80
N2HOQ	SOB	94176	258	436	47	77	92
K4MF	MOS	89024	228	428	44	76	88
KK6PD	SOB	88264	434	748	51	67	0
W8BI	MOS	87730	269	566	34	72	49
WA4MCZ	SOB	86862	215	467	43	88	55
WN1G	MOS	86319	271	417	42	68	97
WA6UFY	SOB	85455	274	405	45	53	113
AI7B	SOB	84630	262	403	48	50	112
N0IOS	SOB	77330	303	407	39	47	104
WB2DZH	SOB	73260	228	396	39	66	80
NJ1H	SOB	69504	255	384	39	53	89
WB0NSA	SOB	68464	300	389	34	40	102
KJ6LD	21	68440	341	590	48	46	22
W6DBV	SOB	66468	234	348	40	42	109
KB3TS	SOB	65960	175	388	43	82	45
WK0F	SOB	63902	236	359	40	58	80
W5NBI	14	62370	400	594	20	33	52
WA1IML	SOA	60214	172	374	43	66	52
W3KV	SOB	58990	149	347	44	87	39
W7TWL	SOB	56724	206	326	38	46	90
KB8IJN	SOB	56248	232	356	35	46	77
K5ARH	SOB	53940	218	310	36	44	94
WA8FLF	SOB	53328	161	303	45	66	65
WA0QIT	SOB	53100	199	300	38	56	83
W7ZAC	SOB	52800	220	320	32	36	97
KA8WAS	SOB	46368	166	288	24	37	100
KC7UP	SOB	45540	211	276	31	37	97
K5MA	SOB	45448	147	299	42	61	49
W2KHQ	SOB	43865	143	283	43	62	50
W4IF	SOB	43364	116	293	46	84	18
KE4BM	SOB	42560	184	266	36	44	80
K7PB	SOB	41340	136	265	52	58	46
WA4VQD	SOB	41182	273	349	18	26	74
KC3ST	SOB	39424	157	256	37	48	69
WG3I	SOB	38720	157	242	36	47	77
W1VXV	SOB	38514	132	262	34	61	52
KE0KB/1	14	36562	233	362	17	40	44
KB2SE	SOB	35280	133	252	39	52	49
WA5FAC/4	MOS	32634	115	259	37	56	33
WA5JWU	SOB	30628	172	247	31	34	59
KC1RG	SOB	30250	120	242	34	54	37
KI5GX	SOB	29212	158	218	28	26	80
WI7D	SOB	29029	142	203	30	32	81
K2VV	SOB	28910	116	295	26	54	18
WA8MEM	SOB	27930	97	210	40	63	30
WD4JNS	SOB	27720	114	231	29	43	48
N3II	SOB	27664	120	208	32	46	55
K7SDW	SOB	25228	149	212	27	16	76
K7PB	SOB	23391	136	207	52	50	11
W2FCR	21	22440	130	264	16	43	26
AA4TH	28	20470	120	230	20	37	32
WN1E	SOB	20280	124	169	25	27	68
WA1MPB	SOB	19950	91	210	31	46	18
KB8LUJ	7	18722	207	253	11	15	48
KA9DZM	SOB	18480	105	168	32	35	43
KF0EF	SOB	17066	115	161	22	22	62
NQ6C	7	15840	192	240	11	11	44
N0MQB	SOB	15484	124	158	21	12	65
WB8CKI	SOB	14734	95	139	27	29	50
W6SX	SOB	14260	99	155	25	16	51
K4KIY	21	14089	128	193	18	20	35
WA2HFI/0	SOB	14070	106	134	22	20	63
KF6HI	28	14016	133	192	16	22	35

W8PBX	SOB	13172	97	148	16	25	48
NF1J	MOS	12384	73	144	26	15	45
W4VQ	28	12191	74	167	19	33	21
KC2X	14	11856	105	156	14	24	38
N5TCQ	SOB	11832	100	136	16	19	52
NY2U	MOS	11650	101	233	21	24	5
KI4MI	21	11635	82	179	11	35	19
KA1JFP	14	11023	124	151	7	24	42
K7MYH/0	SOB	10500	96	125	17	16	51
AB4LX	21	10206	95	162	16	15	32
WA0WHT	SOB	10148	63	118	26	33	27
KC4MOP	SOB	9744	68	112	26	24	37
W3CPB	SOB	9360	59	120	26	27	25
KE9CU	SOB	8892	77	114	19	21	38
KN3P	28	8555	62	145	10	34	15
NT3B	7	8176	129	146	12	4	40
WA9YII	SOB	7704	64	107	24	18	30
KD3KW	7	7540	105	130	11	14	33
N5PQE	21	7497	72	119	15	11	37
KB8GQT	SOB	7420	59	106	22	26	22
W4KQS	14	7378	76	119	13	19	30
KD7H	SOB	6848	75	107	19	22	23
WA9AQE	SOA	6486	42	94	26	31	12
W3FTG	SOA	6319	52	89	20	24	27
KD2BW	SOB	5162	48	89	17	19	22
W2HCA	SOB	4977	46	79	21	17	25
WB9B	7	4725	85	105	6	7	32
K8CV	SOB	4400	38	80	19	23	13
KB9CRJ	7	3315	75	85	5	4	30
K0VW	SOB	3304	47	56	14	11	34
KI7T	7	2964	63	76	7	8	24
KK4RV	SOB	1880	29	47	16	12	12
KJ6HO	21	1628	32	44	8	7	22
KA3DSX	MOS	1440	31	36	9	9	22
N7IXI	14	759	21	33	6	6	11
N9CCI	7	624	25	26	4	2	18

OCEANIA

• AUSTRALIA

VK2BEX	SOB	175778	331	982	46	75	58
VK3EBP	14	18576	88	258	21	36	15
VK8BE	14	1092	26	78	8	6	0

• HAWAII

AH6IX	28	7140	57	170	10	10	22

SOUTH AMERICA

• ARGENTINA

LU9DO	SOB	32630	101	251	44	60	26

• BRAZIL

PY2NY	MOS	82460	182	532	41	70	44

• CHILE

CE3BFZ	SOB	25092	104	306	29	35	18

• COLOMBIA

HK1LDG	SOB	639556	769	2276	51	93	137
HJ4QIM	7	21634	129	373	8	11	39
HK4EGW	14	19320	96	276	16	24	30

• PARAGUAY

ZP5JCY	28	235884	599	1787	23	57	52
ZP6CW	21	770	20	55	6	7	1

• VENEZUELA

4M5RY	21	242858	533	1577	27	79	48
YV6A	28	146856	425	1266	19	43	54

Submitted by Roy Gould, KT1N

DX COMINGS

The mystery of the month, I would say is Baldur, DJ6SI's trip into Africa from 10 May to 21 May. Hope he gets an RTTY operator to join him.

Andre, **TN1AT, CONGO**, should be active soon with the RTTY gear donated to him by Henry, DJ6JC. Please realize that Andre speaks only German and French and is completely unfamiliar with RTTY operations. Be patient with him if you see him.

Our good friend Dave, 9L1UG, will start his new assignment in **BOTSWANA, A22US**, in April and you may expect to see him in every RTTY contest.

There are again rumors regarding a new **MOUNT ATHOS** operation, this time with RTTY. The ARRL, meanwhile, in their DX Bulletin 14 has set out the criteria which will be used to give DXCC credit for such an operation: harder all the time.

VU2NTA reports that his license for the **LACCADIVE ISLANDS** is still in order and that he should be active, including some RTTY around Mid-April. The Laccadives have not been active on any mode since March '89.

The **IRDXA, INTERNATIONAL RTTY DX ASSOCIATION**, is an organization, solely aimed at getting new or very rare countries on RTTY. They need your support to be able to accomplish that aim. They have brought many such rare ones on the air with their equipment, such as XQ0X, VP8SSI, CLIPPERTON, VP8CFM, 3B9FR, ZD7BV, 7Q7LA, 4K2LIL, and many others, who have now QRT'd and returned their borrowed gear to IRDXA.

If today you see stations like 3B9FR, ZD9BV, 7Q7LA or 4K2LIL on SSB or CW, just ask them for an RTTY QSO and they will be glad to QSY for you.

Currently, with the help of Jean, F8XT, arrangements are being made for FR5AI to carry light portable RTTY gear with him on his periodic trips to the Indian Ocean "FR" Islands in a light plane, providing IRDXA can provide such type of gear. Your help is needed, IRDXA is meagerly funded. Any contributions in money or equipment, please to IRDXA, 356 Hillcrest St, El **Segundo, CA 90245, USA**. This has still been the best way to get new RTTY countries on the air.

Usually we don't talk much about "to be deleted" countries. We are rather a bit optimistic and hope vocally that countries in the current Yugoslavia will be classified as New Countries, which is of course well possible. But the Ohio/Penn DX bulletin recently had a short analysis of Countries the DXAC is not considering for deletion: **SPRATLY ISLANDS**: due to changes in occupation: **SOUTHERN SUDAN**: to be voted June 1 (and I just got my cards!) and **ABU-AIL**, since the British no longer maintain the Lighthouse. Kind of depressing if you ask me. Let's hope for **NORTH KOREA** this year: love to see the pile-ups, 100% of the DXers need it.

de **John, TG9VT**, on a mountain top

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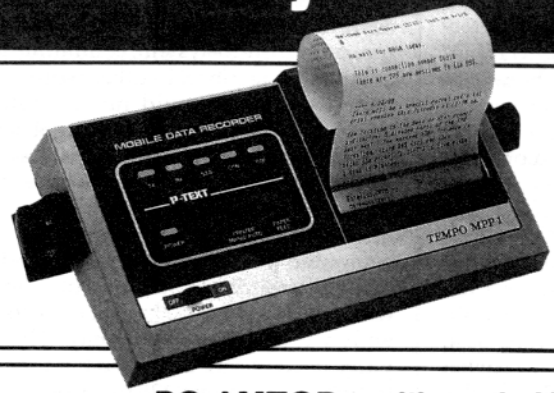

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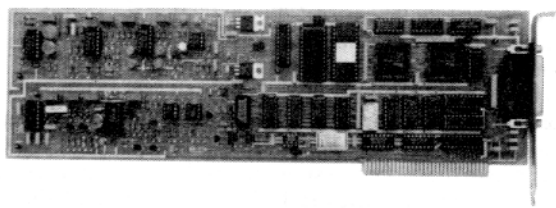

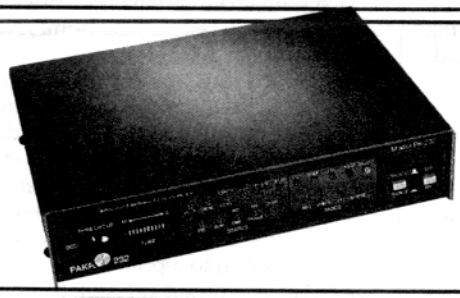

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THE HORNET'S NEST

Dick Uhrmacher, K9VKH
212 48th ST.
Rapid City, SD 57702

Packet radio is the pits! There,.....I've said it, and I feel much better! Ol' Dick has really slipped a clog now, and it's time to call in the guys in the white coats. But before the mortar shells start lobbing into my QTH, and you start looking through your Rolodex for the phone number of your favorite Mafioso hit-man, read on!

For the past three months or so, I have delved into the mysterious and intriguing world of Packet radio communications so that I might be better informed on the subject. To say that I have become an "expert" in this field, is a gross over-statement. Yet, I have gained quite an insight as to the day-to-day operations of this digital mode, the reality of the users frustrations, and probably the most important thing, a realization of what an important contribution this mode could really be, should a few changes take place. I have spent more than a few hours assisting the Black Hills Amateur Radio Club in upgrading their Packet BBS, which has provided a great amount of motivation for this editorial. My most basic motivation for becoming interested in Packet communications were the deleterious, unflattering and down-right nasty comments I heard concerning this mode. How could a mode which has garnered so much attention and publicity, cutting edge technology and innovative equipment design, receive such terrible press? I thought most of it was probably a few disgruntled persons, not unlike those you find associated with any mode. Wrong! I have found very few who now extol the virtues of this mode. Recently I've seen several messages from network SYSOPs declaring that they are withdrawing their systems from connection to the "outside world", bemoaning the fact that their systems are "unusable by the very people who installed them." Not a pretty scene!

We've all heard it, ..."Packet radio is fast." What a terrible misconception and outright misstatement of facts that is! From experience I can tell you that most all RTTY, AMTOR, APLINK and PAMS systems function much faster than packet systems, particularly when data through-put is the standard upon which this statement is made. And, once the new Clover-II systems come on line, this disparity will be even more pronounced. Long-haul message handling, (outside of your local area), is a prime example. It only takes a few minutes of comparative operation to determine that even 74 baud (100 WPM) RTTY surpasses packet radio speeds. How can this be, when VHF packet typically runs at 1200 baud? Messages should zip around the packet networks at the speed of light, stumbling only when an infrequent collision takes place. But, the reality of the situation is that you send your "connect" command, and you wait, and you wait, and you wait. Finally connected, you send 128 bytes or so, and wait, and wait, and wait. And, if conditions are not the very best, (like getting up at 0400 to send your packet message to your friend at his BBS 100 miles away), you get the dreaded "we haven't heard from you in some time, connection severed".

Maybe we here in the beautiful Black Hills have a geographical disadvantage when it comes to packet radio, although I'm afraid that this crutch is a weak one. Actually, we're blessed with the highest mountain peaks east of the Rocky Mountains, all the way to the French Alps. Boy, what an advantage that is, you say! But in all reality, it has proved not to be an advantage, but more likely a serious disadvantage. For FM VHF and UHF voice repeater systems, the mountaintop sites have provided top-notch communications within a five state area, voice communications over a 200 mile range not being unusual. But when packet digipeaters and node controllers are installed on these same mountaintop sites, they have become so clogged with traffic as to become almost useless. These mountain sites have become a funnel through which flows a tremendous amount of traffic, much of which is inane, better sent in other forums, and quite frankly, illegal. And this my friends is the crux of the matter.

From my view point, there are two factors which degrade packet communications to the point where the frustration level far exceeds the enjoyment one receives from participating in this mode. Both are a consequence of the packet protocol, and unless the "movers and shakers" within the packet hierarchy make some substantial changes in this protocol, things can't do anything but go downhill from here.

First, there must be some universal agreement, (or requirement), that traffic being auto-forwarded by automated systems be done at times when "live," person-to-person, or person-to-system, communications are not taking place. In other words, automated systems should not be auto-forwarding traffic during the daylight or early evening hours when human beings are attempting to chat with friends or acquaintances, or attempting to send or retrieve messages, either from near or far. The computer has absolutely no appreciative perception or understanding of John Doe, who is attempting to have a conversation with a friend in a nearby city. The computer doesn't care or understand the frustration with sending 128 bytes of text, only to have to wait for five minutes to get a short blurb back from a distant connect. The computer only understands the need to auto-forward traffic designated for areas outside of its little world, and it will attempt to send this material whether or not the frequency is being utilized by John Doe, who is patiently pecking away at his keyboard while trying to have a conversation, or retrieve a message. The human factor is discounted in packet communications in its present form, and it is this automatic, uncontrolled, unsupervised and unrelenting form of operation that is so badly criticized. Amateur radio is, after all, a fraternity built around human beings, and their interactions with each other. Packet radio in its present form depersonalizes this interaction to a point where it appears we have become subservient to a machine, driven from the airwaves by a computer which has no inherent feelings, controlled by a form of communications that makes us feel both unwanted and unneeded. Strong words? Take a few minutes and listen to your local packet users, SYSOPs and network managers.

Secondly, and equally disparaging, is the amount of "trash" (my definition) messages allowed under the present packet protocol. I speak specifically of the protocol which allows ALLUS, ALLNA, ALL, 4SALE, FORSALE, WANTED, and other variations of these themes. I hear more complaints and controversy concerning messages of these types, than I do complaints about all of the other modes in Amateur Radio, including the late evening "red neck" sessions on 75 meter phone. Hams that I talk to could care less about the personal vendettas espoused in many of the ALLUS messages. Trash of this nature doesn't belong in every BBS in North

America! Amateur Radio has traditionally been non-commercial, yet with the packet protocol as it is now, we see a plethora of "for sale" and "wanted" messages clogging up the system. There are a sufficient number of amateur radio publications, for sale and wanted publications, etc., available for one to advertise his needs in. If you want to advertise your 1950 Gonset AM Two-meter transceiver for sale in every BBS in North America, then I think you should have to connect to each one to do it! You would then appreciate the consequences of your actions, and place an ad in an appropriate forum. It's time to do away with these ALL, 4SALE, etc., categories.

So in the final analysis, this editorial speaks to the issue of system congestion, not to the actual form of communication itself. The difference is like that of night and day, (literally), when you set down in front of the keyboard at 0400 in the morning, versus that of 1300 in the afternoon. You hardly press the "RETURN" key when you receive a response in the "wee hours", as compared to the interminable waits during daylight operations. I have no quarrel with automated systems, per se. As many of you know, I have sponsored a semi-automated 20 Meter MSO (Message Storage Operation) since the very early 1980s, and I'm proud of the service that I have provided. Yet we specifically disallowed FORSALE, WANTED, etc., messages in these systems, which we felt were commercial in nature, and violated both the spirit and intent of Part 97.113 of the FCC rules concerning both "broadcasting" and "commercialism." And, we stressed the "personal" aspect of Amateur Radio, in that we always placed personal communications, DXing, and other activities on the frequency as having priority over any and all mailbox (MSO) type communications.

Opinions are like noses, we all have them. And I'm sure that there are those who read these words that feel my opinions lack merit. But before you write me off as someone who doesn't comprehend, or one who would favor one mode over another, I would ask that you simply canvass your local packet users concerning the subjects I have raised. The basic concept of packet radio communications is a most noteworthy one. It could be the backbone of our message handling system, providing an avenue for attracting many young, bright, computer oriented, newcomers to our Amateur Radio ranks, (and the Lord knows we need that!). But in its present form, where system speed is so dramatically compromised by the inclusion of trash messages, and "live" personal contacts are precluded because of system congestion, more and more will become disillusioned and move on to other areas. I say it's time to re-evaluate packet as we know it today. What do you think?

73 de Dick, K0VKH ■

VISUAL BASIC - NEW CONCEPTS

For those of you who expressed a desire for more technical articles, I hope you enjoy this article submitted by Peter, TY1PS.

You've seen Microsoft's Windows and those fancy programs that offer an easy-to-use Macintosh-like interface. Great! But you've also heard how hard it is to program under Windows...that you need a deep knowledge of miraculous tools with secret names like SDK, DDK, C++. It's not true anymore. Microsoft's new program, Visual Basic (VB) promises easy programming under Windows to all of us. And it works.

I have been using this product for some time and have designed several Ham programs with it. One, a scan controller, will be detailed in a future article. It provides a programmable scanning capability for my APlink mailbox, and it requires no additional hardware or radio modifications. Several other APlink stations are now using the program. Many other easy applications come to mind, such as a beam-heading utility, an F to C temperature conversion chart, logging, etc.

This is a Windows product, so your good old PC or XT (8088 or 8068) won't do it anymore. You must have at least 80286 AT class machine with 1 Megabyte of RAM, a hard disk and DGA or better graphics and a mouse. But let's be honest. I tried Windows on such a machine. It runs, but you have plenty of time for coffee and a long chat with a RTTY friend. I suggest at least a 386SX at 20 MHz with 4 Megs of RAM to run Windows at an acceptable speed. Remember, more is better with Windows. And allow yourself one of those SVGA screens, too. It really does look better and puts less stress on your eyes. That's just the excuse you need to put the old XT somewhere out in the garage. Right?

What You Get

Open the box and find a pair of disks plus two manuals. One, the Programmers Guide will enjoy daily use. The other, Language Reference, will not find as broad an audience. Windows is a requirement (not included with VB) and must be on the hard disk before installing VB. Installation is easy and straightforward. Launch the first disk from within Windows and the process runs automatically. Please note that the files are compressed and that they expand to 3.3 megabytes on your hard drive. Be certain that you have enough space!

Concepts

Most of you have written more-or-less sophisticated programs (I am certain "more" is appropriate for RJ readers) with one of the many Basic interpreters or compilers. You remember all those endless listings of "if...then," "goto," and so on. Your project, like mine, often ended up in an unreadable web of so-called spaghetti code. No more!

VB employs new concepts that allow you to create applications that are easy to make, maintain and understand. Everybody can now write Windows programs, even newcomers that never wrote a line of code before.

VB programs are what is called "Event Driven." What does that mean to you? Look at a classic Basic program. The code executes line-by-line. If you want the program to wait or to do nothing, you create a loop that executes the same lines over and over. The VB program, on the other hand, is made up of many small sets of code or instructions. Each relates to a certain *event*. An *event* may be a pressed key, a mouse action, the opening or closing of a window, data arriving on a port, a programed timer...or almost anything else that happens in the machine. When this event occurs VB executes only the code related to it.

This concept drastically reduces the demand on machine resources (processor time and disk access). Other programs that run simultaneously benefit directly from this economy. And it makes your application run very fast. Remember, all code is related to an event and appears in its own distinct window bearing its' proper name.

OOP

You've heard of OOP? No, it's not a RTTY-er excusing himself for his typing errors. Rather, it stands for "Object Oriented Programming," a very powerful way to automate even the most complicated actions. VB provides all kinds of pre-prepared Objects. They become part of your program. The list includes Buttons, Text Areas, Edit Fields, Check Marks, Filelists, Menus...and many more. Manipulation of these Objects requires very little complicated code. Instead you apply an *action* to the Object. For example, to hide a picture you have put on one of your programming windows, type "picture1.hide." To move the picture to the coordinates X,Y type "picture1.Move X,Y." And to make it reappear type "picture1.show." See now how easy it is to get these Objects into your program and make it work.

Starting It Up

Click on the VB icon in Windows. You find yourself ready to create a new program

unless you choose to run the online Tutorial. (It is a worthy test run and is recommended.) Otherwise, once in VB, you face a large window named Form1.Frm. On top you find the main VB menu window and to the left a Toolbox containing the Objects with which you compose your program.

Creating a program in VB is a bit upside down in comparison to other techniques. You create the user screen (s) of your application before you add any code. Do this by selecting Objects from the Toolbox with the mouse. Place them into your program's empty form. Add as many as you wish, move them with your mouse as you wish. Once dropped on the screen, you define the attributes of the Object by selecting from a list at the top of the screen. For example, create a form to be filled in by the user by putting an "edit-field" Object onto the user screen. Once in place you may change the size, color or style of the characters by a mouse selection from a menu list. Add your own pull down menus through the use of the design tools available through VB's main menu. The user interface and menu system is now done...and you didn't write a single line of code!

Making your program work is the last step. Add the actions now that are to be taken as the result of events that happen within the computer. To add code, you double click on any Object. The action opens an editor window that is related to the Object you selected. Select the event for which you wish to add code. Remember, the event might be a key click, a keypress, mouseup, etc. Most of the code you add will be "methods" you apply to one of the Objects used in your program. Coding becomes easy. Automatic syntax checking and formatting make your work even quicker.

Most of the well known Basic commands are available. Those missing are usually replaced by more powerful counterparts. There is for example no "Lprint" command. But if you want to use the printer, use the Object "printer" and apply text to it. Don't worry about printer control codes, for printing is handled by the Windows drivers. This makes fancy print jobs easy, for Windows always uses the same device independent program code. The same is true of screen management and graphics. Whatever screen is used, Windows takes care of it and you don't bother about it at all.

Once all is ready, launch your new program from within the development environment. VB will stop at errors, give you some explanation of the nature of the error and even highlight the line of code that caused the error. VB includes basic debugging features that allow you to run your program step by step, too. Stop it anywhere to give additional commands or change variables.

The Help system is very powerful. VB Help presents context sensitive code examples that you may cut and paste into your program. Believe me, this avoids a great deal of searching in the reference manual!

Complete your program and then give it a slick icon that shows up on the Windows desktop. Select one out of a wide choice VB offers you or create your own with the Icon Editor. The Icon Editor was written in VB and comes with full source code. It makes the customizing process relatively painless.

By the way, the tutorial in the manual will take you through every step in the development of a calculator and cardfile. Once you complete those two programs you have a good basic education in Visual Basic. Your efforts will be well rewarded.

For The Ham?

Sure it is. VB is a fine tool and gives you the power to create those utilities and programs that you need. And they will all work concurrently on your Windows screen. Thus your rig control, beam heading finder, "C to F" converter and log book (or whatever) are available at any time. They can be tailor made to your individual needs and written by you with little effort. Don't be afraid to try it.

Everything has its limits. So does VB. At first glance it seems not to allow you to use serial ports or to access any hardware in the system. That makes you wonder since all of our toys are accessed via the serial ports. Don't worry. Access to all ports of the system is provided by Windows itself via the Application Program Interface (APA). It sounds difficult but it is not. Unfortunately the guys at Microsoft did not find it necessary to explain this well in the VB "Docs." Find the information in other manuals like the Software Developer Kit for Windows. It is sold separately at a modest price.

In fact, it is very easy to use the serial ports if only you know how. The second article in this series is all about a rig control program in VB. All of the source code will be included. Read it and you will know how to access all the Com ports.

If anybody has questions or comments please don't hesitate to call in my APlink (14/21/28072). Or address a note to TY1PS.Ben.Af via any APlink station.

My thanks go to Jim, N2HOS, for valuable editorial services and to Jim, KE5HE, for helping out with some disks that solved a language problem.

See you all in Dayton. 73 from hot Benin

de **Peter, TY1PS** ■

N6TR/7 CW Logging Program

Byline: Pat Dockrey, NQ7M[1]

ED: The AEA MM-3 Keyer was also used in conjunction with the logging software. The original MM-3 Keyer review appeared in the September, 1991 issue of the RTTY Journal.

I have to admit that most of my RTTY experience is as a spotter for Jay, WS7I, during the RTTY contests. I will work someone once in awhile, especially if it's one Jay doesn't have! I do most of my HF operating on CW, so I was happy to review the N6TR logging program. I am familiar with contest logging through my use of HAL, WA7EGA's Scotchlog program...which we use during the CW contests that we operate at Hal's station. This experience gave me something to measure the N6TR program against.

You can reasonably expect a logging program to do several basic tasks...log a new contact, dupe a call, handle a partial call, etc. Each program may do these jobs in a different manner, but they need to do them simply and efficiently. I was very pleased with N6TR's ability to handle these tasks. In addition, the program had several new features that I had not been exposed to before. I had the opportunity to use the program in the September CW Sprint contest, and will critique it's operation after a description of the program and its' features.

Configuration

The N6TR logging program is currently in Version 3.6. I received the latest version after talking to Tree on the phone. The first thing you do is edit the LOGCFG.DAT file to include your call and the name of the contest. One of the things that makes this program easy to use is the large number of pre-configured contest set-ups. To use any of them, you just enter the appropriate contest name in the LOGCFG.DAT file as CONTEST = CQWW (or ARRL DX, etc). This sets up all of the necessary parameters for the contest from a default file in the program. You can then modify them to configure the set-up to your individual taste. I found the changes very easy to make using a text editor, and re-configured the Sprint set-up several times before getting it just right. The list of pre-configured contests is pretty long, and contains just about every contest you are likely to compete in. This includes Field Day, CQWW, ARRL DX, WAE, All Asian, etc.

The program is designed around CW and

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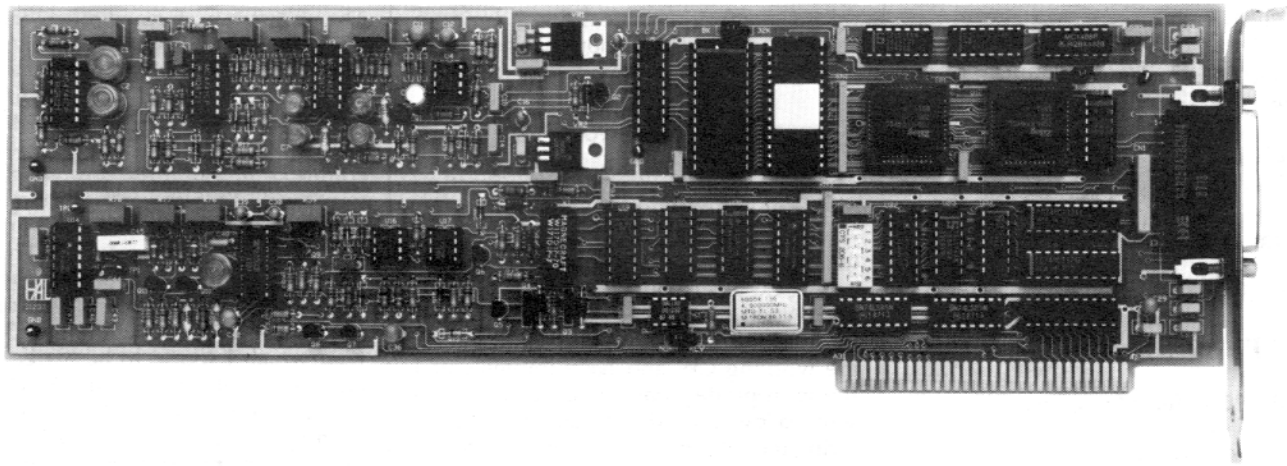
The PCI-3000 and SPT-2 from HAL!



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!

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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.

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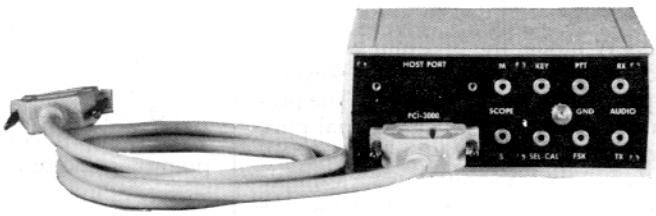

HAL Communications Corp.
P.O. Box 365
Urbana, IL 61801
Phone (217) 367-7373
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PCI-3000/PC-AMTOR with software **$395.**
SPT-2 Spectra-Tune with cable **$169.**
FIL-1 Amtor/RTTY filter (installs in SPT-2) **$69.**

(Low tone export models available.)

Phone contests, and there aren't any RTTY set-ups included in the list. However, it is very easy to modify the various logging parameters, as well as turn off and on a large list of switches. The parameter selection list includes almost everything you might want to configure:

Multiplier Type

Domestic (Section, State-Province, Swiss Canton, etc.)

DX (ARRL DXCC, CQ DXCC, CQ European, etc.)

Prefix

Zone (CQ, ITU, JA prefectures)

QSO Point Methods

All Asian, CQ, 160, IARU, Etc.

Active Exchange

QSO Number, Name, Precedence, Check, Section, RST, Age, RST, Power, RST, Zone, Etc.

There is also a large list of miscellaneous parameters which allow you to configure the time increment, CQ menu, keyer type, and many more operating parameters.

The switching feature utilizes a logical true-false entry to activate a long list of operating parameters. There are 27 items in the switch list, including multi by band, multi by mode, QSO by band, QSO by mode, VHF enable, etc. Each switch can be turned off or on to customize the program to fit your operating style. One of the switches is the simulator enable, which turns the logging program into a "Doctor DX" type of contest simulator...in the CW mode, of course. The program will access a call database to simulate a contest, complete with exchange. Tree sent me a 7000 call database to use, and I was able to try out the program prior to actually using it in a contest. The simulator is very realistic, and it is easy to forget that it isn't for real!

In the CW mode, the program will automatically send the exchange, if the keyer is set-up in the LOGCFG.DAT file. The program can send the CW via a serial port, using either the AEA MM-3 keyer, or it will directly key the transmitter using a simple interface. Several interface schematics are included in the documentation.

The CW mode also includes more send buffers than you can possibly use. There are 20 memories in both the CQ and hunt and pounce modes, giving you a total of 40 memories! A couple of these are pre-programed, but there are more than enough for any contest.

If a color monitor is used, the various display windows can be modified to use any of 16 colors. Since I use a monochrome monitor, I did not use this feature.

You can also program reminder messages that will pop-up at designated times. These can be used to supplement a possibly fatigued memory at critical times during a contest (i.e. Sunrise is now happening in Japan).

Operation

The program has two basic operating modes...hunt and pounce mode and CQ mode. The program comes up in the CQ mode. This mode is used when you are calling CQ and running stations as they call you. When a station calls, the call is typed into the call window, and entered. If you are working CW and have implemented the appropriate parameters, the call will be sent, followed by the exchange. After entering the call, the cursor will move to the exchange window, where you can type and enter the exchange. In several contests, the exchange can be anticipated from the call...which the program will do (and place in the exchange window) if the appropriate parameters have been set. In CW, the program will send the QSL message after you have entered the exchange. You can then enter another call (or call CQ in CW).

The hunt and pounce mode is used when you are tuning for mutipliers or stations you haven't yet worked. This mode is entered from the CQ mode by pressing the TAB key. In SSB contests, there is little difference between the modes. In CW however, the sequence of operation is quite different. In hunt and pounce, you would send your call (using either F1 or the return key) after typing the call you were trying to work into the call window. If you were successful, you would enter the call, with the exchange then being sent automatically. The automatic exchange lookup funtions the same in both modes. The escape key will move you back to the CQ mode if the call window is empty. It will also back you out of an entry error, one step at a time.

The program will organize (and send) QTCs for the WAE contest. It will also support two separate radios, with the ability to switch between them. It also has an extensive list of post-contest utilities to help in preparing and printing the log for submission.

On The Air

I was able to use the program during the September CW Sprint Contest. If you aren't familiar with the Sprint, just imagine the following.

You cover your head with a sack. Several friends stand around you. They shout random names and numbers at you... while they hit you with pillows you have to write down everything with no errors. You do this for four hours.

This would give you a good idea of what a CW Sprint is like.

The program performed much better than I did during the contest. I only lost my place a few times, and only once was I completely confused to the point of re-booting the computer. I used the MM-3 to send the CW, and was able to utilize a couple of program features which I liked very much. You can configure the program to begin sending after a certain number of keystrokes have been typed. This eliminates the need to enter the call, which, of course, saves at least one keystroke. I set the default to begin sending at 5 characters...which I found to be extremely efficient. I was always a couple of characters behind, so there was never an instance of sending too soon. Of course, some calls are only four characters long, so the enter key will have to be used once in awhile. You can also have the complete list of dupes displayed, which is very useful in the Sprint...but probably not as useful in other contests. The Sprint set-up automatically switches between CQ and hunt and pounce, which streamlines things quite a bit.

Unfortunately, I had a hardware problem with my HF rig, and missed most of the last 45 minutes of the contest...and made only two QSOs on 80 meters. This did not make for a great score. I was able, however, to really enjoy using the logging program. The various parameter set-ups allow you to customize the workings of the program to fit your individual tastes. The contest simulator is fun to use, and lets you get used to things before getting into a contest. It allowed me to change the set-up many times to get it just right. The documetation was complete and easy to understand...I was able to quickly configure the program for several different contests without having to consult the author.

I can easily recommend this program to anyone looking for a good contest logging program. I especially liked the auto-send feature, as well as the ease with which the various contests can be configured.

The program was written by Tree Tyree N6TR/7. His address is 15125 SE Bartell Rd., Boring, Oregon, 97009, USA. Contact him for current price and availability.

de **Pat Dockrey, NQ7M** ■

1. P.O. Box 4154, Spokane, WA, 99202.

THE LINK

Jim Jennings, KE5HE
Rt. 2, Box 165E
Hearne, TX 77859

This month the column is being written while on the road. I am in Tulsa, OK for a couple of weeks on business and have put off writing the column until the last minute again. So here I am with my laptop from the PAMS system that I run in the trailer to keep up with what is going on with my ham buddies.

To give you some background of my mobile capabilities, I am one of those who enjoys trailering. We have a 29 foot fifth wheel trailer that we pull behind a pickup when we travel. Since I can take and use my AMTOR station in the trailer, I naturally prefer that to staying in a hotel/motel. I run the IC-751A, AMT-1, Toshiba T1000SE (with 2 meg RAM), PAMS, Tuner, and a Bug Catcher antenna. Here in Tulsa I leave the rig on 7069 with PAMS up and running.

This month, I am going to editorialize a bit. My purpose is not only to get you to think about some of the current issues in HF digital radio, but of course I want to give you my viewpoint. There have been 2 recent developments in the APLINK circle that deserve serious thought by all hams. The first has to do with what has been called an "APLINK Bandplan" and the second is a trial usage of fully automatic operation by an APLINK compatible station.

APLINK Bandplan

What has been proposed, and adopted by a few, is a "bandplan" wherein all APLINKs east of the Mississippi use the 1 KHz points within each band and all APLINKs west of the Mississippi use the 500 Hz points. Presumably, this is done to improve the "efficiency" of band usage by APLINK and thereby reap the praises of the FCC and somebody(s) at ARRL. (As if the FCC seriously cares about how efficient we are.) Actually, the reason we should be efficient is because we, the hams that use the bands, benefit. (It may be that the concept of the plan has changed and now we have 1 KHZ separation with even KHz east of Mississippi and odd west. It is still like rearranging the deck chairs of the Titanic in my view.)

First of all, I object to the terminology "bandplan" which has historically been used in connection with internationally agreed upon usage of the amateur bands. In no way has that which has been proposed been agreed upon by the IARU which is generally considered the governing body in such things. I am not suggesting for a minute that they should consider it either, as you will see in my following discussion.

What we are really talking about is the optimization of this communications system. Now who could be against optimization and efficiency? That is like being against mother, home, and apple pie. When you stop to think about it a little, you will conclude that what we want to optimize is a loosely knit collection of APLINK stations, over half of which are in foreign countries. Unless you are much closer to the man upstairs than I, the first step you would take to do this optimization is to develop some kind of mathematical model of the system. The second step is that you must determine what we call an "objective function." That is a mathematical statement of what it is you want to optimize. For example, you might want to minimize the length of time it takes for a user to link to an APLINK station. Or, you might want to maximize the time that a particular group of APLINK stations are available.

The simplest form of the model for the APLINK system is a simple linear equation. The problem is that this form does not adequately describe the dynamic nature of what is actually there. The second problem is agreeing on what it is that you want to optimize. The solution that has been proposed assumes a simple linear system (not what we have) and then proceeds to minimize the band space being used for that system (not necessarily what we want). In the words of the computer jockey, "Garbage in, garbage out."

I submit that the mathematical description of the APLINK system for optimization purposes is not worth the time it takes to do it, primarily because by the time you have a description, the system will have changed. It is, thank goodness, an ever changing target. Secondly, no two of us will agree on what should be optimized. An APLINK user would like to get his favorite APLINK on the first chirp every time. And let us not forget that a CW or RTTY operator would prefer a very small band for APLINK, if any at all.

There is another related issue with what has been proposed. That has to do with a central authority/committee determining on what HF frequency each station may operate which mode. Notice the subtle difference between saying that all AMTOR operation will be between 14.070 and 14.080 MHz and saying specifically what stations will operate on which frequencies. The next step in this form of control is what we have on VHF where a committee allocates frequencies for each station. If you look at history that is exactly what happened on VHF. We should all resist a move in that direction, I think.

As an example of more efficient usage of our bands, I am convinced that it is possible to operate AMTOR on 500 Hz spacing reliably. But I am equally convinced that the average AMTOR user today does not have equipment which will do a good job in the face of another QSO 500 Hz away. Do we force the 500 Hz separation because it is possible? Of course not. But we should be thinking in that direction.

I would be irresponsible if I only offered what I consider deserved criticism of this grandiose scheme and not offer something positive. Anybody can do the sour grapes thing. I think the most efficient use of the APLINK portion of each band can best be achieved in the following way:

1. Each APLINK should operate generally within what is commonly accepted as the portion of the band used by APLINKs. (Don't go outside this portion of the band without careful study of the band usage.)

2. Each APLINK should ask for comments from users to determine the bands they need. I generally think that each APLINK should try to scan at least 1 frequency on each band, and more on some bands.

3. Each APLINK should obtain statistics about the usage of each frequency he scans, not only how frequently users link on each of those frequencies, but how often that frequency is busy while he is scanning. I do this regularly, and that information is the basis for deciding whether to move to a more clear frequency. Each APLINK should stay away from the "I was here first" syndrome and be willing to move to get a clear channel. An offsetting factor is that when you move, it takes a while before

your users pick up the change. What I have done in the past is to add the new frequency first, use it for a while, then remove the busy frequency after the users pick up on the new frequency.

4. There is an optimum number of frequencies to scan, I think about 12 to 15. This is because you need to dwell about 2 seconds on each channel, and that number of channels gives a complete cycle time of 30 seconds or less. In that way a user doesn't have to chirp for a busy station more than about 30 seconds to see if he is going to show up.

5. We should strive for 500 Hz separation, but each APLINK should have a few frequencies that are as clear as possible.

6. Last, but certainly not least, far too many users are attempting to link with an APLINK MBO without listening to see if the frequency is busy. On about 1/4 of the links that I have with other MBOs, I hear someone coming right on top chirping for an APLINK. This sloppy operating practice not only violates international rules, it only creates more confusion. Have a little patience and listen before you transmit.

Now with many of the APLINKs playing the musical chairs game, every user will want to obtain new copies of the USA EAST and WEST directories. So there will at least be that overhead to contend with. The old adage, "If it ain't broke, don't fix it," certainly seems to apply here. Again, I am fully supportive of any move by individual APLINKs to improve the efficiency of the system by adjusting their own house to do so. On the question of optimization and efficiency in this situation it is clearly a case of "It makes a difference of where you are standing when you're looking." As a result, each station must do his own optimization. I should point out that what I espouse above violates a fundamental theorem of optimization which states that you cannot optimize the system by optimizing the individual parts. But since optimizing the whole system in this case leads to a dictatorship, I prefer the alternative which is some sort of sub-optimization.

Fully Automatic Operation of APLINK Compatible Stations

Using the G3PLX MBO software (with the AMT-1 OR AMT-3) gives one the capability of using fully automatic linking and forwarding. By that, I mean that the computer can hourly start chirping for an APLINK station, establish a link and then forward/reverse forward traffic. All this is done without human intervention. In the words of Larry, KA0JRQ, this allows a ham to enjoy his hobby without even being there. There are at least 2 important issues in this situation.

The first has to do with complying with the cardinal rule of radio communications, "You do not transmit if the frequency is in use." Both the AMT-1 and AMT-3 have built into their ROM the capability to determine if there is an ARQ signal on frequency. If they hear a (fairly strong) ARQ signal, they will not initiate an ARQ call. In a way this is analogous to packet not transmitting when it is hearing another carrier (or in some cases another packet signal). The problem is that you may not transmit if any other signal is present on the frequency, not just another ARQ signal. I will admit that I have not personally tested the AMT-3, but it is my understanding that it is similar to the AMT-1 in this regard. I have tested the AMT-1 and I find it completely lacking in the proper ability to determine if the frequency is in use (except for a fairly strong ARQ signal). So in the first place, I don't think we have the capability to run a fully automatic operation and still conform to the appropriate rules.

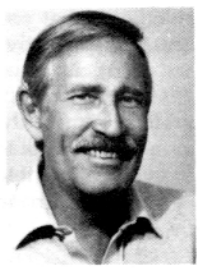
The second issue is probably the most important one. If we have, at a rather modest cost, the capability of every ham to operate a fully automated station, how long do you think it would be before everyone has one? With this scenario, you could put a message in your computer for your friend Joe, turn the system on and while you are off at work or sleeping at night the message would get moved automatically. That sounds like a great idea. To me it sounds like computer generated QRM. On the issue of a computer and "people" arguing about who is going to use a particular frequency, I can tell you that the computer will win out every time. While the concept of automatic operation sounds good, without someone being very selective about who can do what on which frequencies, the result can only be bedlam. If you can't let everybody operate fully automatic operation because of the consequences, should you let a selected few do it? If so, how do you decide who will be in this elite group?

Summary

In closing, what I have seen evolve in APLINK over the past 2 1/2 years is one of the best things I have ever seen for ham radio. I think we should be very careful about making "policy" decisions which may come back to haunt us. Certainly, I look for change and opportunity for change, but I think this can better occur in the most flexible and free environment we can maintain.

73 AND GOD BLESS

de **JIM, KE5HE** AT KE5HE.TX.USA.NA ■



DX NEWS

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

The least you can say is that March was an exciting month: just look at the bandpass listed below. But the great thing was **SOUTH SANDWICH ISLAND, VP8SSI**. In spite of tremendous physical hardships, those guys made a lot of us happy. Not that it always came so easy, not for us either. Here Tony, the RTTY Op showed up from March 29 (not that I could hear him) on 15 Mtrs and worked a bunch of Japanese (Congratulations, Gin San). Seems there was a short opening to the West Coast and then Europe opened up for them. So they worked Europe till 20:15Z and then QRT. Just when the Center of the USA started to begin hearing them.

Oh Boy, what next. Rumors galore: the RTTY gear had broken down. A high wind busted the monitor, you name it. Practically climbing up the wall (with one eye on the monitor). Stayed home again on Wednesday: and here, 1400Z on 10 Mtrs, a most fantastic signal, Tony from VP8SSI, working North America for hours and making most of us happy. At least the retired ones, the sick ones, the fired ones and the ones that just played hooky, like me. Of course, it being the First of April, I had to check Tony out to see if he was for real and asked him a few leading questions, all were answered correctly. Only then could I get my briefcase out and dress up to go to work; great job Tony, including the unbearable suspense. Doubt that we will see this Country again for another decade.

MARCH HAPPENINGS

March was a very exciting month for the RTTY DXer. Not only did we see a continuation of some of the rare ones active in February, but we also had a run of others. **AP/WA2WYR** from **PAKISTAN** continued on an almost daily basis on 10 Mtrs around 1400Z. **XQ0X** from **SAN FELIX** was active several times a week (QRT by the time you read this and next to show

Continued on page 22

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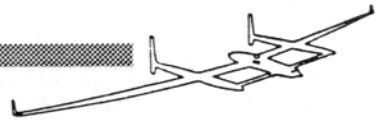

Richard G. "Dick" Rutan, KB6LQS—pilot of the "Voyager"

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from **JUAN FERNANDEZ**), **VP8CFM**, after a brief spell of broken CRT problems, continues to give many of us a new one from **SOUTH ORKNEY**. By the way, Brian has been promoted to commander of the Base on Signey Island: Congratulations, Brian, with your IRDXA gear. Plus activity by **C9RTC** from **ANGOLA** continued. And also **C9RKL** has become active again. and then there was Eddy, **VP/G0AZT**, active from **BURMUDA**, doing a bang up job, in spite of the Transceiver problems he had.

Besides those we saw during the month such outstanding DX as VQ9RB, VQ9JY, VQ9AS, 9M2AX, UI8DAM, 7X7XX, XX9AS, ZD8LII, A45ZX, A71BS, ZC4AB, 3C1EA, BY1QH, H44JS, VS6AI, OY9JD, FW1FM, P29RB, P29MI, BV2BV, KH0/JL1UEV, KC6OK, ZA1TAA, EA9MI, TA3C, 7X2DS, Z21GZ, FO0CI. The unforgettable Expedition to CLIPPERTON, A61AD, HS0ZAA, T77T, 7P8SR, (Please don't send him any IRCs, he has enough to paper his walls: other postage like green stamps would be appreciated), HZ1AB, KH7/KH6JEB/ from KURE, VP5JM, 9V1JY, ZB2IZ, 6W6JX, 7Q7BR, 9L3DX, YA5MM (WFWL), HV3SJ, PY0FZ (TRINIDADE), 8Q7PY, VK9CK (COCOS KEELING), TZ6VV, 9L3DX, A22BW, BV5AF, FR4FR, 4U1WB, and a short appearance by A92FG from Bahrain, amongst others. And still there is no real word from S2, BANGLADESH. The strange rumors we get change daily: now supposedly the Bangladesh Government will give operations permits to foreigners, but strictly under their own call: no S2 prefix. If RTTY will be included in those permits is a great question as it is difficult for the Government to monitor RTTY transmissions.

MY EXPEDITION

This month we have brought you some pictures (front cover plus page 23) of **KUWAIT**. On the Cover is our friend **ABDULJABBAR MARAFI, 9K2DZ, "THE LAST VOICE FROM KUWAIT**." Not only is Abduljabbar a great hero, he is also a most personable man. I have known him over the radio for many, many years, but I never thought he had it in him to be a true Hero in a very dangerous time.

The week that we were there was a week of partying, filled days and just mutual companionship. Besides the formal ceremony at the Kuwait Radio Club, there were private lunches and semi-formal dinners in tents (great). I so well remember a lunch given for us by the well known RTTYer Adnan, 9K2KA. Nothing lacked us there, gorgeous broiled food and other things, all prepared in the traditional style. And after dinner, an hour or so at his Radio Station.

The Field Day was a joy, with two stations on SSB and CW in a place at the beach, put up specially for that purpose and using the call 9K2RA/NLD (for National Liberation Day). Everyone got his hands on operating and it was fun. Temperatures were kind of cool, about 50 Degrees F in the morning and not getting very hot at noon. Much different than what you would expect in the desert.

The first few days the Minster of Information had a bit of difficulty finding us suitable Hotel rooms: they are a bit scarce there (understatement). So the first night I slept at a Hotel near the Airport. Then, when Frank, WA1URA/7 and others started to arrive we needed more space, so we ended up in a hotel in the center of Kuwait. Typical hotel for centers of cities: crowded, small rooms, but a delightful restaurant. However, before going to bed I noted that a small piece of steel was sticking out from the side of the bed. But giving no thought about that I went to sleep. About midnight I had to get up to do what comes naturally, and what do you know: the bed jumped at me and put the piece of steel in my leg. So I called Frank, WA1URA, he in turn called Moshin, 9K2EC, and off we went to the hospital, where a very competent Doctor took a peek at it and pronounced "Ten Stitches." So ten stitches I got and when I asked for the bill: "medicines and medical care are free in this country", paid out of Oil revenues! Sit up and take note Texas and Louisiana!

Anyway, I had to go back to the hospital every second day for a checkup and the leg never bothered me at all. Ezzat, SU1ER, taking me down there with the car the Ministry had put at our disposal. Anyway, back in Guatemala, 10 days later, the stitches came out and my leg is as good as new, even though in cannot compete with some of the nurses I have seen (Chauvinist).

But the next day the Ministry picked us another Hotel and it was very nice in all respects, including the food and the location. There we were all together, had a car and a driver and were happy as larks.

I hope the pictures speak for themselves, but I will look back for the rest of my life to the time spent in this friendly country with 9K2DZ, 9K2EC, 9K2AK, and so many wonderful others that I cannot enumerate them. And I am sure that the other invited guests felt the same way: N5DST, WA1URA, SU1ER, HB9JV, SM0CXM, and AP2NK. Just sorry that the others invited for their contributions to the Kuwait cause during the occupation were not able to make it: OD5NG and W9CD.

HAVE A GOOD DAYTON

Most every year when we attend the Hamvention in Dayton, some rare DX is on, which we are then forced to miss. It was that way with **KINGMAN REEF** few years back and a few more, I cannot recall. Well, this year it looks like maybe we will miss no new ones: but: Baldur, DJ6SI, has postponed his mysterious expedition to **DARK AFRICA** to start 10 May, though he still is mum as to the location: but he needs an RTTY Operator as a companion, to cover his own transport cost, DM 8,000. Do I hear any volunteers? Jules?

I get a lot of inquires about the **TI9YO QSLs** that never seemed to materialize: the best I can advise you is to send a letter and a new QSL to Minor, TI2YO, the operator and a good DX type and try and get it direct from him instead of going through third parties in Costa Rica. That is how I got mine.

A moment of Silence please for Dan Davitt, N6CGB, a well known RTTYer and whole hearted supporter of our hobby, who passed away from a hear attack on 28 March. May he be with the Lord, our God.

And an "almost happening" like that fell on our good friend Syd, VK2SG, editor of the weekly RTTY DX Notes. Syd went to the hospital to check on some RTTY ulcers. The doctors gave him a good look, put him in a bed, told him he had a fluttering aorta valve and if something was not done immediately, he had three weeks to live. Luciano, I5FLN, took over the preparation of the DX Notes on a temporary basis. Today Syd is home, still under Doctor's care, but their estimate of his longevity is not that pessimistic. Bless the Lord!.

Amongst the many who have spoon-fed me information to get this column together I should like to thank W6PQS, I5FLN, VK2SG, WB2CJL, W2JGR, 9K2DZ, 9K2EC, 9K2KA, SU1ER, VK2EG, ZS5S, N2HOS, TY1PS, KB2VO, CE3GDN, WA1MPB and many others: without you: no DX Column.

May the Good Lord Bless you all and dispense plenty of DX (as I sit here, writing this and looking over my shoulder to see if South Georgia might appear). Have a good Summer!

de **John**, **TG9VT**, and the Guatemalan Volcanos.

Some of group in front of the "castle", the beach house used for field day operations.

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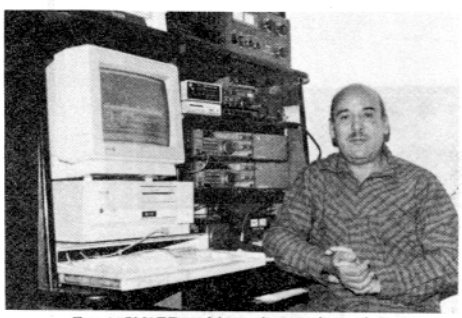
Abduljabbar, 9K2DZ, in his modest shack.

Moshin, 9K2EC, in his shack.



Ezzat, SU1ER, at his modest station at home.

WA1URA, N5DST, 9K2DZ, SU1ER

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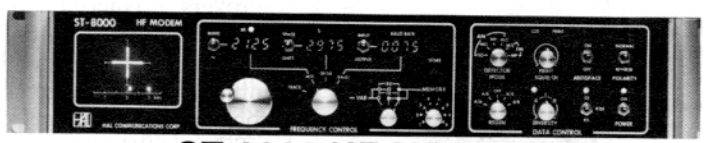

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