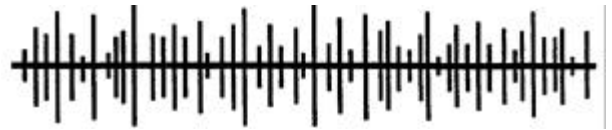


WHITE NOISE



Volume 9, Number 4

May, 97

UPFRONT

Florida License Plate W/ Amateur Call
or "To Be, or Not to B"

by Terry J. Taylor, W5JFM

The State of Florida, Department of Highway Safety and Motor Vehicles (DHSMV), has provided the ability to order an Amateur Radio License plate. This plate is available to duly licensed Amateurs. Having been through this exercise years ago with an older callsign, I recently made the plunge through the bureaucratic red tape for my new callsign. I thought that I would give you the procedure to follow if you are interested.

Basically, you will need to send four forms with your check to Tallahassee. The first is Form HSMV 83041, APPLICATION FOR AMATEUR RADIO LICENSE PLATE, which I have scanned and provided a copy along with this article. I will be glad to provide anyone else a copy with a SASE. The form is easy and can be filled out quickly. Instructions are included on the bottom of the form. The Amateur License Plate is only available for automobiles for private use, trucks weighing 5,000 lbs or less, or motor homes or truck campers not used for hire or commercial use.

The other three forms that you must include are copies of your FCC Amateur Radio License, a copy of your vehicle registration, and proof of insurance. These last two forms should be readily available in your vehicle glove compartment - for accident purposes, and for those unwanted flashing lights in the rearview mirror.

Now you are wondering how much extra is it going

to cost! Well, that is a little known fact that probably only a few folks in Tallahassee can tell you. My saga goes like this: I went to my local DHSMV office on Hillsborough Road in Deerfield Beach. The HSMV Form 83041 was relatively easy to find from the person at the information desk, only after about 4 or 5 minutes of tearing the place up. With form in hand, I was given a seat to wait until my name was called by one of the ladies behind bars. I always wondered whether the bars were for our protection, or theirs. The last time I worked (not lived!) behind bars was in the Air Force, and I had a gun on my hip. I just wonder if these nice ladies carried one as well. Hmmmmm!

After my name was called, it became quite apparent that no one in the facility knew what to do with "one of those Ham guys" wanting their own brand of vanity plate. My expert at the window disappeared for over 15 minutes, reappearing occasionally asking for information about my present vehicle and FCC

PBPG Meeting
Thursday June 12, 1997
7:30 PM EDT
at
Palm Beach Emergency Operation Center
Belvedere Rd.
West Palm Beach, Fl.

Guest Speaker: Tom Kneisel K4GFG

*Detecting Radio Signals from the
Mars Global Surveyor Spacecraft*

more info on page 5

license that I had already given her. Finally, she returned to give me my instructions which began, "I think you need to...blah, blah, blah...and if you have any questions call: 1-904-488-3881." Really, I thought she must have been on that same number figuring out from Tallahassee what to tell me, I guess, so that I could just call it back again. Jeez! She gave me a list of additional fees that she thought that I would have to pay, but she wasn't sure.

I called the number myself in order to know exactly how much to write a check for. After climbing through the telephone answering tree, I sat out on one of the last branches - on hold - waiting for the next available clerk. I am now talking to Betty, and I am trying to 'spin her up' to speed as to what I'm trying to accomplish. She is the specialist, but, again, I spend about half of the time with her on hold. Basically, what we do is find the total dollar amount on your vehicle registration form, then add to it several additional fees. To that amount, Betty says to add \$10 for the plate, \$2.50 for a service charge, and \$1.50 for mailing, which for me comes to \$47.60. I drive a Jeep. I thank Betty, hang up, write my check out, add all the other documents, then head for the Post Office. (All this to just drop a "B" out of my call!)

As all this occurs in early November, I receive a letter from DHSMV around the middle of December that I am \$3.50 short. RATS! What good does it do to call them?!? So back goes another check for the now corrected correct amount. I waited for my new license plate until early February, then I gave them another call. A lady said she would do the research as to why I hadn't received the plate, meanwhile, I checked with my bank to see if the check had been cashed, and it had. A week later, the license plate finally arrived. I've been de-B'd!

Is the letter 'B' worth all that? I guess so, but many of you do have new and different call signs that might make the effort for a new call seem to be a little more worthy. Whether you have a new call, or you are satisfied with your present call, you do have

White Noise is published by the Palm Beach Packet Group, Inc.

The PBPG can be reached by mail at

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The officers of the PBPG with their packet address and phone numbers are:

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Bill Manley, Director
KB4XE@WB4TEM
(954) 752-3908

Terry Taylor, Director
W5JFM@WB4TEM
(954) 942-2390

Joel Yates, Director
N4JOA@WB4MOZ
(561) 737-5841

the option for an Amateur plate. After the initial fee of about \$20, depending on who you talk to up there, the yearly renewal fee is much smaller, I think in the area of about \$5.00. That is quite reasonable. Remembering your license plate number will be a lot easier, too.

The assistance phone number is already listed above, but if you need to write, then write to: Special License Plate Section, Bureau of Titles and Registrations, Division of Motor Vehicles, Neil Kirkman Building, Tallahassee, FL, 32399-0500. Happy License Plating!

CHIRPS

by Terry J. Taylor, W5JFM

“Come on, Come on!! Hurry up! Why does this thing take so long?” Do you ever hear yourself saying that, all the time wondering why packets aren’t just flying back and forth between your TNC and the PBBS or another station? Part of the reason for some of the delays we encounter with packet operation has to do with the AX.25 protocol. Basically, AX.25 uses timers that run during specific parts of the packet connected process that help manage when frames are sent, and/or re-sent. These timers are very important, as we’ll discuss, and this can provide an insight into when and how certain frames might be sent back and forth.

Taken from the AX.25 Link-Layer Protocol manual itself, there are three timers. The first is called T1, and is known as the Acknowledgment Timer. The second timer is T2, and is the Response Delay Timer. The third timer is T3, and is the Inactive Link Timer. We will look at all three timers, and try to make some sense as to when each is running, and what control you might have as an operator over each of them.

T1 keeps the progress of packets flowing between two connected stations going with as much efficiency as possible. Imagine these two extremes. The first station sends a packet frame, gets no immediate response, then retransmits the frame again. It takes a finite amount of time that varies

with many different factors for the receiving packet station to receive a valid packet frame, and generate an acknowledgment frame. If the first station is too quick on the retransmit trigger, then it will not receive an acknowledgment frame, and then either proceed to begin polling the second station to see if it is still there, or RETRY the same frame all over. Now, the other extreme is that the first station sends a packet frame, and then waits forever for an acknowledgment. As you can see, there needs to be some middle ground between these two extremes where a station transmits a frame, and then waits a reasonable time before resending the same frame if no acknowledgment is received.

Your control over T1 is known as the packet parameter called FRACK. The parameter is set, according to my AEA PK-96 manual, between 1 and 15 seconds, and defaults to 5 seconds. If the packet address has in it one or more digipeaters, then the period of time is automatically increased by the formula: $\text{Retry interval (seconds)} = n \times (2m + 1)$, where ‘m’ is the number of digipeaters. For example, if we had a FRACK of 5 seconds, and 2 digipeaters, the formula would be $5 \times (2 \times 2 + 1)$, which is 5×5 , or 25 seconds. The digi takes time to hear a packet frame, then more time to wait for a clear frequency, and then transmit the frame to the next station. The end station in this example has to receive the frame correctly, then generate an acknowledgment frame back the same path through the same digipeaters. We call this “end to end” acknowledgment between the originating station, and the end station. If the original packet and/or acknowledgment doesn’t make it for whatever reason, collisions or other malfunctions, then T1 will run out on the original station, and the frame will be transmitted again under Version 1.0 of the AX.25 Level 2, or a polling frame will be sent under Version 2.0 of AX.25 Level 2. It is interesting to note that ROSE addresses use the VIA syntax, just like the digipeaters, which triggers the above formula for increased T1, so using ROSE will increase FRACK timing. Also notice in the formula

that is there are no digipeaters, then 'm' becomes zero, and 2 times zero plus one, becomes just one. Then 'n', in seconds, becomes (n x 1), which is just 'n', or the original FRACK parameter without any increase in time due to no digipeaters.

To continue this one step further, with no response from the receiving station after T1 (FRACK) runs out, then either the original frame or a polling frame is sent as mentioned above. How many times does this happen? It all depends on another parameter called RETRY, which is normally set to 10. Once the original station retries 10 times, we say "we retried out" meaning that the original station tried 10 times to get a response for a packet that had been transmitted. After that, normally the link between the two stations is dropped. What can cause this?

Usually the link between the two stations is very weak, meaning that either station is having a hard time receiving the other station. A packet or two might make it through, like a very short Connect frame, but the longer "T" frames are not being received in their entirety such that the receiving station does not send out an acknowledgment frame.

Next month, we'll continue with the other two timers.

...CHIRP, CHIRP!!

Optoelectronics 3000A Product Review

Brian Mork, KA9SNF

Part 4 of 5

OPTIONS

You can buy a precision (0.2ppm Vs 1.0ppm) timebase for an extra \$100. Again, I stayed away from the 0.2 ppm precision timebase because specified aging would quickly degrade me back to the standard 1.0 ppm time-base. Additionally, I don't often need to know the last 2 Hz on a

10000000 Hz signal. As with the 3000A, the electroluminescent backlight is no longer an option-- the standard price is just higher.

>>> GOTCHAS

The serial interface is unidirectional. You send it a CR and it sends back 10 digits and a decimal point, in ASCII, 4800bps, 8 bits, no parity, 1 stop bit. It provides only the most recent number, with no indication of whether this is another sample or the same number it just sent you after your last request. The interface can sink 1.6mA and source 0.06 mA.

Excellent amplifier sensitivity isn't everything. For decent counting, the signal you're monitoring must exceed the noise (combination of *all* other RF signals in the bandpass of the selected amp) floor by a claimed 10-15 dB. Specified sensitivity ranges from -57dBm to -13dBm. The input amp is limited to +15dBm. Ambient noise, including FM stations hovers about 3/4 scale on the bargraph when using an AR100XLT scanner antenna. Since the scale goes from -56 to -26 dBm, that's roughly a -33 dBm noise floor. Adding in the 15 dB overhead for a good measurement gives -18 dBm required signal. That would be 8 dBm above full scale, roughly 3 bar segments. This matches real life experience of the Yaesu 757GX related above.

The Hi-Z M1 input handles square waves better than sinusoids, whereas the 3000A showed terrible susceptibility to harmonic lock-on with non-sinusoidal waveforms -- both for me and the other friend spoken of above. He was trying to measure a frequency multiplying class C VFO and confusion as to which stage was being measured made the meter unusable. On another project, anywhere near a 50 KHz switching power supply, measurements were dominated by it. He asks "would I have this problem with a TEK or HP counter?" I don't know. I know my extensive experience with a 7226B counter in the 1 to 10 MHz range showed none of the bizarre behavior seen with this (and the 3000A) high sensitivity counter.

Triggering of these counters is just erratic. Perhaps a DC trigger with variable threshold adjustment would be better. OE's digital filtering DOES help, but often the filter is fooled or else specified sensitivity is unattainable.

In Damien's review, he emphasizes the importance of a limited bandwidth antenna. Take this recommendation seriously. The M1's bargraph covers the range of real-life, on-the-air signals much better; it actually moves around rather than being saturated most of the time. The required 10-15 dB spread between noise and desired signal appears as 3 to 4 bargraph segments on the 16-segment display. The 3000A and the M1 appear to be optimized to do off-the-air measurements. In this role, using the M1,

I've had fun snagging frequencies used by all sorts of Air Force base agencies in a manner just as Damien described. In the lab, using hard-wire connections, the Hi-Z inputs of the M1 don't measure up to specs and the 3000A inputs seem downright unusable.

>>> SUMMARY

Paying \$100 less for a M1 balances against having only one input and losing the extra modes of operation. Because these extra modes relied on the unreliable Hi-Z inputs, I don't miss them. I am extremely interested in hearing reports from others in the field that have success or failure with the M1 and 3000A Hi-Z inputs.

All models are available only direct from the manufacturer in Florida. Contact Optoelectronics: 5821 NE 14th Avenue, Ft Lauderdale, FL 33334. 800-327-5912 or 305-771-2050. FAX 305-771-2052. Makes you want to dial ..2051 and see who you get, doesn't it? :) You can read manufacturer's product info over the internet web at URL <http://www.optoelectronics.com/m1.htm>.

73, Brian Mork (Opus-OVH/InCrea)
ARO ka9snf@kb0kqh.#seco.co.usa.noam
I-net mork@usa.net
Web <http://www.pcisys.net/~mork/>
4504-C W. Juniper, USAFA, CO 80840

Coming at the Next PBPG Meeting June 12, 1997

Presentation by Tom Kneisel K4GFG

The Mars Global Surveyor spacecraft was launched toward the Red Planet on Nov. 7, 1996. As part of the on board systems checkout, a 1 watt beacon on 437 Mhz was to be activated when the spacecraft was about 5 million Km from earth. January 1996 QST had said the signal would be only -177 dBm out of a 432 Mhz moonbounce array, far below the audible threshold. Randy Terrell K9BCT, and Tom Kneisel K4GFG, decided to try to detect the signal using Randy's moonbounce array. In his presentation, Tom will describe the spacecraft, the receiving system they used, and the DSP techniques employed to successfully detect this weakest of dx signals.

An Intro to APRS, Part 4 of 5 THE SKY'S THE LIMIT

As mentioned above, some SKYWARN participants use APRS to track the movement of storms. But you can have fun with it, too. Some enterprising hams have used their APRS/GPS systems for foxhunts, and cross country bicycle races. Some like to use it in combination with their local DX cluster. When a new DX station appears on the cluster, it can be plotted on the map along with the callsign. APRS packeteers have taken their portable packet systems with them on camping trips, and cross-country

tours. Others have used their mobile systems to locate jammers, and then put his location on the map. You could conceivably put a GPS transmitter in your car the next time you have to park it at the airport for long time. If it turns up missing when you return, you just might be able to find it with APRS. The possibilities are almost limited only by your imagination. Who knows? You might even find a way to use APRS/GPS for an Easter egg hunt! Anybody want to know when Santa will arrive in the neighborhood? Try using APRS. You never know...

Clause...

- End of Part 4 -

73 de Larry KC7LVZ @
WB7VMS.#MURPH.OR.U.S.A.NOAM

PALM BEACH PACKET GROUP Board
of Directors meeting

MARCH 24, 1997

The Board Of Directors and one guest met at the residence of Bill Manley,(KB4XE)Present were President DOUG, (WB4KGY), Vice Pres MIKE, (K2GPI), Treasurer, JOEL (N4JOA), Secretary BILL, (KE4GUM), TERRY (W5JFM), BILL (KB4XE), JOE (WB4TEM) FADCA vice President.

The meeting was called to order @ 10:04 hrs.



Bob Bruninga, APRS software originator, addresses forum at Miami Hamboree February 1997.
Photo by KB4XE



At the BOD meeting: Bill KB4XE, Terry W5JFM, Doug WB4KGY, Bill KE4GUM, Joel N4JOA, Joe WB4TEM Missing Mike K2GPI.
Grabbed video frame by KB4X

WHAT'S NEXT?

Obviously, there's a lot more that can be said about APRS, and many more uses than have been mentioned here. There are document files that come along with the software, and many more on the TAPR web site and ham-related BBSs that can doubtless address aspects that have not been covered here. The capabilities of APRS are always being improved, and the latest upgrades are soon made available. So, if you're really interested in seeing a fascinating use for packet radio, get into APRS. Who knows what it may lead to?

Here comes Santa Clause, here comes Santa

1. White Noise:

A) Discussion centered around expanding the membership of the PBPG. Recommendations include purging old guests and adding new names from the BBS users of N4JOA, KB4VOL, WB4TEM, and WB4MOZ to the mailing list of "White Noise" (This is an action item for Joel, Doug, & John).

B) Investigate the feasibility of advertising in "White Noise". (This is an action item for Bill)

C) Jazz up the format of "White Noise" with graphics and pictures. (This is an action item for Bill and Terry)

2. PBPG Future Agenda:

A) Contact the EOC administration and get their input on what PBPG can do to assist. (This is an action item for Doug)

B) Continue to expand the High Speed Network

C) Complete the Internet connection at Boca. (This is an action item for Joe)

D) Give more emphasis to APRS.

3. FADA Mission Statement: Joe was asked what is the mission of FADCA. "The major function of FADCA is frequency coordination" As Vice President of FADCA, Joe is going to work with the directors to formulate a Mission Statement to reflect the future direction of FADCA.

4. Technical Improvements:

A) BOD suggested that 3 books be ordered for PBPG education library. Bill (KE4GUM) will research the items and present options to the BOD.

B) PBPG will continue to assist individuals and groups in establishing and improving network capability through technical assistance, equipment loans, and education.

C) Encourage more participation in 9600 operation. (This is an action item for Doug)

5. Treasurer's Report:

A) Joel, N4JOA Presented treasures report. Discussion followed, report was accepted for review. MIKE (K2PGI) will review the financial statement and report at the next meeting.

B) Joel will refund \$15.00 to Joe (K1VAO) for NSF charged to him due to the excessive delay of the Treasurer in making deposits.

C) The BOD strongly recommends the Treasure make timely deposits in the future.

6. Post Office Box:

JOE (WB4TEM) accepted the task of picking up mail, sorting out the trash and mailing the remainder to the appropriate PBPG officer.

7. Inventory Data Base:

Bill Manley will set up a data base in MICROSOFT ACCESS. President Doug (WB4KGY) and Vice President Michael (K2GPI) will continue to inventory equipment and forward the information to Bill.

Michael (K2GPI) left the meeting due to appointment @ 11:37 hrs.

8. Button Boys Buttons:

Secretary. Bill KE4GUM advised that the buttons had been ordered. [Buttons were received on 27 March 1997]

Meeting was adjourned @ 12:00 hrs.

Respectively submitted;

BILL KE4GUM
HAPPY TRAILS !

PBPG Minutes, APRIL

The meeting was called to order by President Doug, WB4GKY, at 19:34 hrs.

16 members/guests were in attendance.

OPENING AND REPORTS

1. Treasurer's report was read by VP. Mike, (K2GPI). Report was accepted as read.
2. Technical Committee report-- Doug WB4KGY.
 - A. No problems occurred with SWITCH this past month.
 - B. Problems with new routing table were resolved by John, WB4MOZ.
 - C. Investigating ways to speed cross state data rate.

OLD BUSINESS

1. PBPG buttons were distributed by Bill, KE4GUM.
2. BOD meeting was held on March 24th at Bill Manleys, KB4XE, home. Topics Covered: "WHITE NOISE", PBPG future Agenda, FADCA, Technical improvements, Treasure year end reports. Post Office Box, Inventory Data Base, Button Boys Buttons. Minutes from BOD meeting will be published in next month's "WHITE NOISE".
3. Updating of the PBPG inventory by Doug and Mike & Bill continues.
4. Handout of: ROSE Switch list
NODE'S list

NEW BUSINESS

1. Loss of Treasurer: Joel, N4JOA, due to pressing work and personal commitments has resigned as PBPG Treasurer.

The Board of Directors and membership of PBPG wish to thank Joel for his many years of service as Treasurer. Not only did Joel provide timely financial records but he kept the membership and mailing rosters. Thanks is also extended to his wife Carolyn for her word processor skills developing print ready copy of the "WHITE NOISE". They have served in the best traditions of "HAMS & XYLs". THANKS !!!!

2. Members were asked for their input on programs topics and suggested:
 - A. Parameters on TNC commands

- B. Packet satellites
- C. MIR
- D. HF Packet

It was also suggested a packet "Elmer" be established by the PBPG.

3. Hamfests coming:
 - Gainesville, FL April 26,27
 - Dayton, OH May 16/17/18
4. If you can help the PBPG no matter what your skills, Please step forward.!!!
5. BARDS meeting----MOTOROLA Sat. April 19th.
6. Join FADCA
7. Memberships are being accepted by KE4GUM.
8. Due to the resignation of N4JOA. Nominations were taken from the floor to replace the Treasurer. HENRY (W4UJ) thrust the name of MARVIN (KD2CK) into the breach. Stunned and dumbfounded by the rapid 2nd of the nomination, MARVIN willingly accepted the position.
9. At the suggestion of Bill (KB4XE) a committee of Henry (W4UJ) & V.P. Mike (K2GPI) was formed conduct an audit of the books to establish a "fire wall" between the old and new Treasurer.

WORKSHOP

1. Doug, WB4GKY, gave a CRACKER JACK program on RUNNING THE ROSE. Many members helped with the presentation, most notably BOB, WD9ATM. A really good time was had by all.

ADJOURN

Meeting was adjourned at 21:04 hrs.

THOUGHT OF THE DAY!

Bookie: A pickpocket who lets you use your own hand.

Respectfully submitted;

HAPPY TRAILS
BILLYBOB 73

**PALM BEACH PACKET GROUP
MEETING MAY 1997****MINUTES OF MEETING****OPENING AND REPORTS**

The meeting was called to order @ 15:30 hrs. by Vice Pres. Mike K2GPI, who was presiding in the place of President Doug Welcker WB4KGY, who was absent having escaped to the GURU protection program. (Vacation). Ten members/guests present.

1. Welcome/Introductions

2. Treasurer's Report.

Not available due to change over to new Treasurer, Marvin, KD2CK, not having received the audited report. Will appear in later addition of *White Noise* !

3. Technical Committee report, given by John, WB4MOZ.

A. Attempted ROSE upgrade to V3.9-Removed.

B. Network Meeting with Arcadia & Sarasota.

Discussed: Future upgrades to cross state backbone link.

Better BBS forwarding paths.

Modified Okeechobee, Lake Placid, Avon Park, Arcadia to stand alone Freq.

OLD BUSINESS

1. PBPG buttons have been received and distributed. Still have two to be picked up. W5JFM & WA4DBA.

2. *WHITE NOISE* mailed on April 28th. Did you get yours ?

3. Doug & Mike completed inventory- Sent to Bill, KB4XE, to update database

4. Handout of: ROSE Switch list and NODE'S list

NEW BUSINESS

1. Report by Treasury Review Chairman.

Unable to give report due to lack of information.

Will appear next meeting.

2. With regret it was noted that Jamie's, KD4LXB, Mother had recently passed away. Members present signed sympathy card.

3. Dayton Hamfest this month.

4. PBPG would like for members to volunteer to help in club activities.

5. BARDS meeting at Motorola Sat. 19th. April

6. Join FADCA

7. Memberships are being accepted by Secretary.

WORKSHOP

Bob, WD9ATM, & Mike, K2GPI, gave an excellent demonstration of packet connection to N8PCE-7 Mt. Vernon OH. keyboard to keyboard. Just the thing to get members into the swing of things. We THANK them for a fine program.

ADJOURN

Meeting was adjourned @ 21:10 hrs.

Today's thought:

Never play leapfrog with a unicorn.

HAPPY TRAILS

BILLYBOB !!!

**Broward Amateur Radio Digital Society
March 15, 1997**

There is a noise problem with the Hollywood node. John Wilson, KN4HX, thinks that the power supply may be feeding 60Hz through when a transmitter loads it, so he bought a large capacitor to filter out the power supply line. If this eliminates the problem

it will confirm that the power supply is the source of the noise and he will dig into the power supply to further diagnose it at that point. Currently, all maintenance expenses come out of John's pocket. Someone suggested that we approach PBPG with a request for maintenance funding on an as-needed basis to keep the Hollywood node going.

Seymour, KC4NMY, reported that Memorial Hospital is forming a club in order to keep Dr. Ed Webb's station on the air. The club will be supported by the hospital. Mrs. Webb is donating Dr. Webb's equipment to the club. One of the conditions of the donation was that Mrs. Webb's call sign be removed from the station and Dr. Webb's call be added to it. To do this John needs memory chips - 2pcs. 512K and 3pcs. 256K. Several club members said they might be able to supply the chips.

Seymour, KC4NMY, reported that thanks to Dr. Kirschman we have a new station K4TCV-2 at Mercy Hospital (Bayshore). There was some discussion as to whether the station should be -2. The station will have weather equipment.

Jim KD4GR mentioned that he needs to install weather equipment on the Motorola station before hurricane season.

Jim, KD4GR, and Tom Kneisel, K4GFG, gave an update on Satgate. The new chips arrived yesterday, and the computer itself should be functional again soon. The Satgate should be functional again within the next month. Jim mentioned that there are plans to use the Satgate as a ground station for space shuttle linkups, and as a result Tom is helping get the phone link working and Harold Sanderson is helping with the antennas. The plan is to connect to Satgate via Jim's station. Station operation is intended to be fully automatic, including aiming of the directional antennas.

Steve McCandless, KK4GM, is a silent key, caused by a heart attack followed by complications, shortly

after the January BARDS meeting. He was cremated and his remains were scattered at sea by the Neptune club as he requested. His ham equipment was donated to the Hollywood club by his family when they disposed of his house and personal effects.

Jim, KD4GR, gave a brief explanation of the PBPG and its relationship to BARDS.

The presentation was by Tom Kneisel, K4GFG, who described his project with Randy Terell, K9BCT, to receive a 1.3 watt UHF signal from a NASA Mars probe at a distance of about 5 million kilometers. Using Randy's 25dB EME Yagi array and advanced signal processing which compensated for receiver drift and Doppler shift, Tom and Randy were able to recover a -174dBm signal, only about 2dB above the noise floor! The signal was detected despite the fact that the probe was transmitting in a modulated mode rather than continuous CW as expected. Details of the experiment can be found at Tom's home page at <http://www.gate.net/~tomk>.

Minutes by Dave, KN0NNZ

April 19

The meeting was opened by Bob, N4CU, at Motorola. For the rest of this year the meetings will be at Motorola. We had the usual reports and discussions, after which we broke for coffee.

Carl, W9ZGU, gave us an excellent April presentation on a 48 element, 2M, Phased Array antenna system made by stacking 8 full wave elements in 6 collinear arrays. He used the time division reflectometer he demonstrated at a previous meeting to do final tuning. He had a final beam width of 3 degrees and a gain of approximately 24 dBd.

The next meeting will be at Motorola May 17.

**TREASURE COAST PACKET GROUP
MINUTES**

APR 12, 1997

With the President and the Vice President absent, the Secretary, Ladd W2KGV, opened the meeting at 9:35 a.m.

The minutes were read by the secretary, and were accepted as read, on a motion by Don, K8BXT, and a second by Andy, W8BIX.

Andy, W8BIX, reported the treasury at \$1293.54 with no change with one check to Bill, N4XEO, outstanding. The report was approved on a motion by Don, K8BXT, and a second by Jim, WA1COA.

OLD BUSINESS:

The letter to users, suffered the same delay as reported last month

NEW BUSINESS:

None

TECH REPORT: In the absence of the Technical committee, Ladd, W2KGV, gave a short review on the state of the TCPG Switch, as related to him by Bill, N4XEO, to wit: Version 3.9 B of the switch program is being burned in by the good graces of John, WB4MOZ, of the Palm Beach Packet Group. Updating the TCPG Rose Switch will begin with the 2 meter switch, and then doing the 220, and 440 ports once the 2 meter switch is deemed operative. There may be a delay until John, WB4MOZ receives clarification of the specifications.

The meeting was adjourned at 9:51 a.m., followed by Q and A session.

Attending were:

K8BXT, KF4LTT, N4LRV, WA1COA, W8BIX and W2KGV.

Respectfully submitted:
Ladd Sajor, W2KGV, Secretary.

**TREASURE COAST PACKET GROUP
MEETING**

MAY 1997

No formal meeting was held on Saturday May 10, 1997, since only four members attended. In its stead, the group discussed various aspects and problems relative to Packet.

A new member, Dock, N4HYK was accepted, and another renewed his dues.

It was also suggested that hereafter the TCPG adapt the membership procedure of the PBPG, and have the membership period run for one year from the date of joining which would help stagger the payment of dues away from the end of the year, when we have other expenses.

Also considered was the possibility of regular renewals be moved from the end of the year to any month a member chooses by their paying the additional dues (prorated) at their next renewal.

Please bring your comments, suggestions etc., to the next meeting at 9:30 a.m. on June 14, 1997, at the Morningside Library in Port St. Lucie Talk-in on the 147.060 MCARA Repeater. Attending were N4HYK, W9OQN, W8BIX and W2KGV.

Respectfully submitted:
Ladd Sajor, W2KGV, Secretary