
WHITE



NOISE

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Larry Lazar W4BKX

Bill Manley KB4XE

Always on the lookout for interesting ham related stories, President Doug WB4KGY suggested that I interview Larry Lazar. Doug guaranteed that I would find the interview interesting. Larry is an engaging guy with an outstanding ham shack, he said.

Doug had understated what was to follow. After a long period of failing to merge personal schedules, I finally met Larry at his QTH in Plantation, Fl.

His house was easy to spot as I drove up. The 20 meter beam, assortment of VHF and UHF Yagis and verticals clearly marked the home of a dedicated ham. And, they suggested the extensive station which I was about to find inside.



His daily routine starts at 11:00AM (don't call him before then!) and continues to 3:00AM. I arrived at noon and we chatted until 3:00PM. He still was looking forward to breakfast. Breakfast is the "... first meal of the day .." regardless of what time it is eaten he explains.

Larry is a retired engineer and a licensed PE which he earned before college credits were required. He is a meticulous person, as it evident when you meet him. His engineering background taught him to carefully examine and specify a problem before presuming to solve it. "The problem must me specified exactly". "Don't ask Larry what time it is , he'll tell you how to build a watch", he quips.

He is an enthusiastic story teller and a careful listener. "Don't whisper in Larry's presence, he can hear grass grow".

We exchanged war stories. That's that privilege of the over 60 generation to which we both belong (although he is my senior by a few years).

The den in the front of his home is dedicated to Larry's ham station. After exchanging pleasantries he showed me a neatly kept folder containing the operator licenses he had held. The first, on 8x10 paper was for an blue amateur license issued by the Department of Commerce in April 1931. At that time an amateur license had to be renewed yearly. To do so, one sent his license to the government; they returned it stamped and expired and provided a new document. Larry had them all, including his first issued by the Federal Communications Commission later.





Larry's interests focus primarily on packet communications in which he engages with gusto. On wall shelves distant from the doorway to the den, I counted 9 transceivers. On the front wall to the left there are 4 computer systems connected in a network with Novell software. He refers to the computers as his systems 1 to 4.

System 1 is a 386DX25 85M HD 8M RAM running DOS. The software is Eskay SP V9.6 which runs 4 packet ports, each of which can provide 5 connects simultaneously. As currently configured, radio interfaces are 2 DRSI cards plus a HF modem. The radios consists of an IC730 monitoring 14.1056 operating 300 baud packet, an IC28H monitoring 145.01 at 1200 baud packet, another IC28H monitoring 1200 baud packet on 145.67, and an IC38A monitoring 223.42 at 1200 baud packet.

System 2 is a 486DX100 1.2G HD 32M RAM working as the network server. The operating system is Linux Slackware v3.2. It is also linked to the System 1 operating with a TNC DRSI DBK2 at 1200 baud with an IC28H on 145.67.

System 3 is a Pentium 100 6.46G HD 32M RAM operating Linux/Dos/Win95 in separate partitions. Larry using this machine as his experimental work station. He is also building an Intel Celereon 366 MHz machine which is not yet on line.

System 4 is a 486 500M HD 32M RAM belonging to the Broward Amateur Radio Club. It is running Linux Slackware and serves as a 9600 Baud link on 145.61 from the N4HHP-4 PBBS to Larry's gateway

Also in the radio stack are a Paragon II used for HF voice, IC2100 used for 2M voice, and a Radio Shack 404R operating at the time on 442.35 to Homestead..

He demonstrated the gateway bringing up Telenet on System 3, connecting to the internet, to another ham gateway, and watched packet QSOs in progress in Germany, Russia, and beyond. There are hundreds of such gateways active at any given time he explained.

For a brief tutorial, connect to W4BKKX on 14.1056 LSB 300B, or W4BKKX on 145.01 1200B. You'll receive a greeting, a short help menu, and suggested prompts

```
//h    help
//i    info
//q    quit
```

You must type the "//". Having taken you this far, the rest is left to the experimentation of the student.

When asked where his station is going from here, he plans to integrate the new Celereon System, and add two additional ports to System 1. Beyond that is not defined but Larry is "... always fiddling around with something".

(The following article is presented with the permission of The Institute the newspaper of the IEEE, April 1999. - ed)

Signing off ... latest technology replaces Morse Code

ANNETTE CODISPOTI
Assistant Editor, THE INSTITUTE

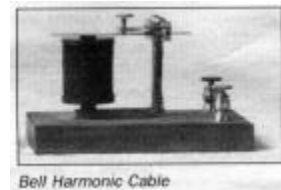
After over 150 years of faithful service, Morse code has quietly retired from its role as a consistent and dependable rescuer of ships in distress. After all these years and many advances in communications technology, Morse code is just now being replaced by something better.

The transition began in 1979 with an international effort to improve maritime distress and safety communications. The International Maritime Organization, a United Nations agency, called for the development of the Global Maritime Distress and Safety System (GMDSS).

The new system, according to the U.S. Coast Guard, is based on a combination of satellite and terrestrial radio services and has changed international distress communications from being primarily ship-to-ship based to ship-to-shore based. All ships subject to the new regulations had to fit all GMDSS equipment by 1 Feb. 1999.

"The introduction of satellites was indeed the turning point," said Joseph Hersey, chief, Spectrum Management Division of the U.S. Coast Guard, and an IEEE member.

"Morse telegraphy remained functional for so long for a number of reasons. It is reliable, it is simple, it works and it can operate at a lower signal-to-noise ratio than practically any other radio system," said Hersey.



Bell Harmonic Cable

But as good as it was, there is always room for improvement. "Some elements of the GMDSS, such as satellite communications, emergency position indicating radio beacons and marine safety broadcasts, have proven themselves over the last 10 years," said Hersey. In 1997 this system saved more than 540 lives in the U.S. alone. "In many of these cases, the EPIRB alert, generated when the buoy automatically deployed from a fast-sinking vessel, was the only alert received. Morse code would have been insufficient in most of these cases," said Hersey. "Had the GMDSS and elements such as satellite EPIRBs been around earlier, ships like the Edmund Fitzgerald, which sank suddenly with all hands (Nov. 1975), without warning in Lake Superior, might possibly have been saved."

Not everyone is happy with the new system, especially the radio officers, said Hersey. Under the old regulations every ship had at least one radio officer to manage the telecommunications. With GMDSS this person is no longer necessary. While the Coast Guard does not have accurate figures on false alarm rates for GMDSS systems at this time, they are generally high and they do not know exactly why. One reason may be the lack of training for those using the equipment said Hersey.

AMATEURS HANGING ON

Ken Botterbrodt (K2WB) is the president of the South Jersey Radio Association in Haddonfield, NJ., the oldest continuously operating amateur radio club in the United States. While he agrees Morse code may be obsolete for the IMO's purposes, it's still a big part of a hobby that he and other amateur radio operators enjoy. "It becomes like music. You recognize the sound," he said.

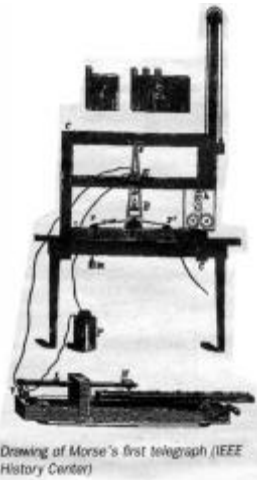
Learning Morse code is like learning a second language, according to Botterbrodt, and he feels people are becoming less interested. "This is an important mode and I hate to see it die," he said. There are currently five classes of FCC licenses for radio operators and one does not require learning Morse code.

Amateurs like Botterbrodt enjoy the contact with other operators and the knowledge they gain from their hobby. One of the advantages to using Morse code, and perhaps the reason it lasted this long, he said, is that it can work with a very weak signal. It's also easier to communicate in Morse code with someone in another country when accents get in the way.

MORSE AND VAIL

It was January 1838 when Samuel Morse, a painter turned inventor and a widower with two children, successfully demonstrated his telegraph machine at Speedwell Iron Works in Morristown, NJ., USA. Several days later, at the very first public demonstration of the telegraph in Morristown, the machine foreshadowed the connection between transportation and communication systems with a message "Railroad cars just arrived, 345 passengers-"

Morse and his associates were pioneers in the practical use of electricity. just as significant as the technical aspects of his machine was the code itself. Today at Historic Speedwell in Morristown (www.speedwell.org) visitors can learn about the events leading to the development of the first electro-magnetic telegraph and the story behind its inventor and his partner, Alfred Vail, as it is written in a book, "At Speedwell in the Nineteenth Century" by Cam Cavanaugh, Barbara Hoskins and Frances D. Pigeon.



Over the years the Morse and Vail families disputed who was the true inventor Of the telegraph and Morse code. It all started with an agreement between Morse and Vail in 1837. Vail convinced his family, proprietors of the Speedwell Iron Works, to financially support Morse and help him build his machine. Vail recognized the potential in Morse's work where others, even Morse's own brothers, did not. Morse would received the patent, and all related patents while Vail would receive one-fourth of the U.S. rights.

In the book, supporters of Vail turn to letters written by Vail, Morse, their colleagues and family members as evidence of Vail's contributions. The book even suggests that it was Vail who replaced Morse's numbered dictionary code with an alphabet code employing dots and dashes. "Alfred had made the telegraph practical," it states. After the first public demonstration of the telegraph, Vail stayed behind in Morristown making revisions to the machine. Morse went to Europe seeking patents and financial backers. He was not successful in Europe, but in 1840 he received the U.S. patent.

In 1844 construction of the first telegraph line from Washington D.C. to Baltimore was completed. At this time many improvements had been made, Almost all the machine was replaced or revised by the time the telegraph was in public use, and Morse continued to receive most of the credit. Despite the uncertainties, Vail and Morse remained friendly in the years that followed. When others filed lawsuits against Morse over telegraph patents, Vail always stood by him. Their families, on the other hand, were not as friendly. The book states that in 1911 "someone -- a grandson, it is believed -- engraved on Alfred's monument at St. Peter's Church, Morristown, these words 'Inventor of the telegraphic dot and dash alphabet.'"

PSK31 - A NEW DIGITAL MODE

Bill Manley KB4XE

If CW is a passing mode, the RTTY digital mode is undergoing regeneration. Peter Martinez G3PLX has restructured it from top to bottom. He has invented PSK31 which replaces the old Baudot digital code with his own Varicode. He has replaced the Frequency Shift Key (FSK) modulation with Phase Shift Key (PSK). The rest he accomplished with DSP techniques which are embodied in his PSK31 software. You can download it from his web site at <http://aintel.bi.ehu.es/psk31.html>.

The Varicode is robust providing access to the complete ASCII set. You can send and receive all of the 256 characters which are available from your keyboard. The Baudot code was restricted to capital letters, numbers, and some punctuation. Binary Phase Shift Keying (BPSK) is bandwidth frugal. At 31.25 hertz, it is narrower than CW! I've received perfect copies from signals which not only did not move my S-meter, but were also inaudible. The system is susceptible to QRM, but to cope with this problem he also offers Quadrature Phase Shift Key (QPSK) using four tones rather than two and providing error correction features. I've not tried QPSK yet.

The equipment required is your transceiver, a computer with a sound card, and two shielded cables connecting them. I installed the system in my station, tuned 14.068 USB - and the results are uncanny. The interest is spreading quickly as evidenced by the many

PSK stations now occupying the digital segments of the HF bands. I listened for a while, mesmerized by a screen painted with perfect copy from a signal I could barely hear. My first PSK QSO was initiated by mouse clicking the CQ button. My screen painted

CQ CQ CQ DE KB4XE KB4XE KB4XE
CQ CQ CQ DE KB4XE KB4XE KB4XE
CQ CQ CQ DE KB4XE KB4XE KB4XE
pse k

Followed by a machine generated CW ID.

Shelby W8WN responded. We exchanged keyboard pleasantries. He noted that this was also his first PSK QSO. Also, almost incidentally, he passed on his web page URL. Later I checked that out. It turns out he holds records for High Speed CW Meteor Scatter - 1720 wpm! (Who says CW is dead?)

Guy ON5HY from Belgium responded to my second CQ. We exchanged signal reports, wx reports, grid locations, and other pleasantries. This was an excellent wrap-up for my PSK31 initiation.

To learn more about PSK31 read Steve Ford WB8IMY, [PSK31- Has RTTY'S Replacement Arrived?](#), QST May 1999, pg 41. Visit the PSK31 web page and download the software. Install it and build two cables. You'll be on the air in less time than it took to read this issue of the *White Noise*.

SWATCH BEATS AWKWARD RETREAT: SPUTNIK WON'T FLY

Excerpted from a BBC Broadcast News Release
Doug Welcker WB4KGY

Swatch Watch says the "Beatnik" satellite will not be sent into space today from the Russian Mir space station as planned. The watchmaker says "a virtual Beatnik" will carry the messages in cyberspace instead and invited "Beat" fans to "stay tuned and join the first cybermission!"

At the same time, both the Associated Press and Reuters are reporting that a satellite was launched by hand from Mir during a space walk by ESA astronaut Jean-Pierre Haignere, FX0STB, and Russian cosmonaut Viktor Afanasyev. If the reports are accurate, it's not clear whether the satellite launched was the planned "Beatnik" spacecraft or a spare mini-Sputnik that's been aboard Mir since 1997. Reuters said the satellite was one "built by French amateur radio enthusiasts." The report quotes Russian space center spokeswoman Vera Medvedkova as saying, "It is finished. They launched the satellite."

AP said the satellite put into space was one "made by Russian and French schoolchildren" that contained "a recording of their voices." The spare mini-Sputnik aboard Mir--a duplicate of the one launched in 1997 to mark the 40th anniversary of the original Sputnik--is believed to contain only a 2-meter beacon transmitter.

As of April 16, there have been no monitoring reports.

Swatch announced early April 16 on its Web site, <http://www.swatch.com/beatnik/frameset.html>, that the controversial messages the satellite was to have transmitted on the 2-meter amateur band would instead be read by a Russian cosmonaut aboard Mir during an April 22 videoconference, to be broadcast via the Internet.

The controversial messages, gathered via the Swatch Web site, related to the Swatch company's campaign to establish the "Swatch Beat" as a new "global concept of time." Swatch had solicited more than 5000 messages—including voice and text files—for possible transmission on the new satellite. Messages selected for use were supposed to include a reference to the "beat" theme.

But Amateur Radio operators around the world, citing international regulations, protested the plans because of their commercial connection.

Swatch pinned the blame for cancellation of its Beatnik satellite on the recent failure of the Luch 1/Gelios satellite the Mir crew uses for communication with Earth. "Swatch has decided to assist the Spaceflight Control Centre and donate the batteries supporting the Beatnik satellite to the Mir cosmonauts, thus canceling the possibility of any radio transmission from space," Swatch said in a brief statement on its Web site.

Full-page Swatch ads in today's New York Times and Los Angeles Times to announce the change in plans expand on the battery swap explanation. According to the Times ads, cosmonauts will use the batteries to run an onboard printer "which is the lifeline to earth through which the Cosmonauts receive their daily instructions and key operations points."

The Luch-1/Gelios, the only geostationary satellite available for Mir communications, suffered a technical failure April 12. Just how the nonrechargeable batteries now in the mini-Sputnik aboard Mir would remedy the Luch-1/Gelios satellite failure was unclear from the Swatch posting.

The ARRL weighed into the Beatnik satellite controversy April 7 by suggesting to Swatch Group CEO Nicolas E. Hayek that the Swiss firm cancel the launch and use a commercial satellite for its project instead. Sumner noted that international regulations define the amateur service as one engaged in by "duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest."

Although Swatch asserted the messages were not advertising, Sumner pointed out to Hayek that the commercial nature of the arrangements to transmit the messages on amateur frequencies was contrary to international law. "I think this was a new thought to him, frankly, because this is not the way they had been viewing it," Sumner said.

It's not yet known what will become of the mini-Sputnik itself. The satellite had arrived on Mir aboard a Progress rocket April 4 and was set for launch April 16 during a space walk.

You at ARRL.NET

Excerpted from DIGITAL DIMENSION, QST May 1999 page 77 - ed

How would you like an e-mail address consisting of your call sign plus "**@arrl.net**"? If you are an ARRL member, it is now possible to have such an address because the League now provides an e-mail forwarding service as a membership benefit.

This service is a forwarding (or "alias") service only. No messages will be stored on the ARRL servers. E-mail sent to you at **arrl.net** will be forwarded to a real e-mail address that you provide.

To sign up for this service, go to the ARRL Members Only Web page (<http://www.arrl.org/members-only/>). If you are accessing ARRL Members Only for the first time, you will need your ARRL membership number to log on (the number appears on your QST mailing label).

Not only will this new e-mail address identify you as a ham, but it likely will be easier to remember than your real e-mail address (for example, compare **wallou @arrl.net** to **stanzepa@ct2.nai.net**). Just think how simple it would be to send e-mail to another ham, if all hams used this service? If you know the other ham's call sign, you'd know his/her e-mail address as well.

Minutes of the April PBPG meeting

BROUGHT TO ORDER

The meeting was brought to order at 19:30 hrs. by President Doug (WB4KGY). Introductions of guests and new members were made and members did self-introductions.

TREASURERS REPORT

The 02/01/99 to 02/28/99 Treasurer's report as presented in the April 1999 White Noise contains accurate numbers for the activities but also contains a small accounting error. The transfer to checking of \$300.00 should have been a negative, or minus, entry. This changes the February 28th Ending Balance to \$4,243.77, which results in Total Assets of \$4,730.54. All other numbers and accounts remain as reported.

TECHNICAL COMMITTEE REPORT

1. Doug (WB4KGY) reported excellent traffic conditions on 10 meters at 28.1885 lsb, 1200b AZSE (N700), Phoenix. Phoenix includes an excellent gateway. Somewhat similarly 28.1800 lsb, 1200b provides a gateway to South America and the Caribbean.
2. West Palm Beach switch again no problems this past month.
3. John (WB4MOZ) and Doug upgrade software and performance testing.
4. John right now needs help with a manual or schematic for FT equipment.
5. Melissa virus? Any inputs on detection and correction.
6. Mel (K3ML) down in Key West has been told that due to an engineering inaccuracy, he will have to lop 60 ft. off his tower top. More later.

OLD BUSINESS

1. We are still looking for takers of the donated computers for conversion into packet operational computers. Fourteen such computers and monitors are available at the time of this report.
2. White Noise was mailed on April 2nd .
3. White Noise was printed from a disk/ PDF format with picture quality much improved. Full-size pictures in color are available at the Web Site.
4. Acrobat 4 is available at our Web Site to view pictures.
5. PBPG has six Packet Books for lending (Burck KC4UEV).
6. Replacement tower site for Belle Glade status includes one action, one no action. The action was a visitation to the Clewiston APRS site two weeks ago. There is no new information on the Lake Harbor site.
7. FPAC System expansion is continuing at a satisfactory pace.
8. FCC Scanner Receiver Rules have been strengthened by the ARRL. Copies are available through Doug.

NEW BUSINESS

1. We are investigating different ways of mailing White Noise , including continued use of USPS, and/or e mail .
2. PBPG Web Site is <http://www.qsl.net/pbpg>.
3. Doug advertised the Gainesville Hamfest April 24/25 and the local Pizza Hut free flea April 24th.
4. If you would be willing to get involved in assisting the club through writing, technical assistance or other ways we can always use your help. Give one the officers a call.
5. BARDS meeting scheduled for April 17th at Motorola.
6. Memberships are being accepted for this April meeting by Marvin.

WORKSHOP

Marvin (KD2CK) presented an interesting program using Delorme Street Atlas version 6.0 USA Earthmate GPS {street price \$140} and an IBM Think Pad laptop to show how to track oneself on a computer map. This equipment can also be developed into full APRS for tracking by other monitors.

ADJOURNMENT

Next Meeting will be Thursday, May 13.

Notes taken by Mike Michaels (K2GPI) - written by Burck Grosse (KC4UEV).

Minutes of the April BARDS meeting

April 17, 1999

Jim finished his filter program with additional information, Questions and Answers, and a Quiz. Al proved there is more than one way to answer a question correctly; you can guess the answer! Thanks to Jim's hints, Bob figured it out.

There was a general discussion of the Swatch promotion, AMSAT-France, and the Russian Space Flight Control Center. Swatch had planned promote "Beat" time on an amateur satellite using amateur frequencies. The "Non-Compliant" proposal has since bit the dust.

The May 15th program will an explanation of the Navy Postgraduate School's spread spectrum HAM satellite by Bob, N4CU

73, Bob, N4CU