

the Life Members newsletter

CONTENTS

TODIC	PAGE
Editorial	1
Volunteering	2
LMF update	3
Resolution	3
War stories	4-5
The LMC photo op	6
Donating publications	6
IEEE Milestone Program	6
Internet for the chronologically challenged	7
Stopping IEEE services	8
Our mailing list	8
Submitting articles	8
Roster	8
Qualifying for LM status	8
Where to write	8

4th-1st quarters

2001

First off, a very happy, healthy and prosperous New Year/millennium to everyone! As we start the New Year, the Life Members Committee (LMC) is working hard to keep old resolutions and to define new ones beneficial to all.

To this end, I would like to introduce our newest LMC member, Dr. Edward E. Altshuler. His efforts as the Life Member Chapter's Chairman—within the IEEE Boston Section—exemplify how Life member activities can benefit a wide constituency.

The Boston Section has about 1200 Life members and established a Life Member Chapter in early 1998. The goals of this Chapter are to utilize the expertise of its many senior people and motivate its engineers and scientists, particularly those who are retired, to stay active in IEEE programs.

The LM Chapter's first meeting was held at Lincoln Laboratory on 24 March 1998. Prof. Paul Penfield, Prof. Frank Reintjes and Ms. Nancy Heywood, all of MIT, talked on the Legacy of MIT's Building 20, a "temporary structure" built in 1943 that was finally demolished after 55 years. Since then, 18 more meetings have been held. Upcoming seminars are announced in the Boston Section's newsletter, *The Reflector*.

The topics are often historical. For example, talks have been given on radar's development in Britain, the early years of computer, acoustics for concert halls and opera houses (their biggest draw with 200 attendees), digital television broadcasting, the history of GPS (a 100-person crowd pleaser) and the invention that changed the world (radar). The speakers are often pioneers in their fields of expertise. One past speaker, Prof. Bloembergen of Harvard, is a Nobel Laureate.

Ed uses three approaches to obtain speakers. The first is to send invitations to all the IEEE Fellows in the area to speak on a topic of their choice. The response has been very good; over half of the speakers have been obtained from these letters. Active in the IEEE Boston Section for almost 50 years, Ed also "persuades" colleagues to present or, at least, provide possible names. Lastly, Ed announces at the seminars when he is in the market for speakers.

Although sponsored by the LM Chapter, attendance is not limited to Life members. Since the meetings are at the Lincoln Laboratory's auditorium, usually some Lincoln Lab employees also show up. Attendance averages around 75 people. There appear to be about 25 to 50 Life members who attend most meetings. Refreshments are served compliments of Lincoln Laboratory from 3:30-4:00 p.m. The seminar with questions runs from about 4:00-5:00 p.m. Afterwards, the speaker and a guest are taken to dinner. The key to success according to Ed is good speakers and good weather.

The IEEE LMC has been and continues to actively promote the growth of Life Member Chapters. Interested in learning more or getting one started in your Section? On page 3, resource contacts are listed. As always, we welcome your comments and ideas.

**Arthur Winston, Chair
Life Members Committee**

Volunteering by trial and error

After 40 years in industry, at all engineering and management levels—in addition to military experience and government experience—I finally retired for a third time. I then wanted to do volunteer work that would utilize and might benefit from my background. This goal has met with, in my opinion, mixed success.

For example, my first volunteering attempt was with SCORE (Service Corps of Retired Executives). This group is sponsored by the Small Business Administration of the US Federal Government. My experience with the Washington, DC group was satisfactory. I received some training in what I was expected to do. The operational activity consisted mainly of handing out brochures and advising the occasional clients about the rudiments in starting a business and how to seek funding from non-government sources. Most applicants seemed to have the mistaken belief that SCORE could help them get government funds to start their businesses. I had to give up this activity when we relocated our home to Florida.

In Florida, I again offered my services to the local SCORE chapter. This chapter was run in a completely different manner. Its members were long retired, permanent members who treated the organization as a social and business club. First, I had to submit to a lengthy interview to be accepted. I was finally notified by mail that I had passed the interview and was now one of them. However, I had to commit to being “on duty” in the office a set number of hours per week. I would have to find a replacement for myself whenever I could not perform my “duty.” I would have to pay, regularly, a small amount of money as dues to the organization. This was not for me so I immediately resigned.

My next volunteer attempt was with a university’s electrical engineering department. After a pleasant meeting with the Chairman, I furnished a resume and discussed supporting them with research grant applications and similar papers. I specifically stated I did not want an assignment as an instructor. The result was a letter from the university’s legal department. It was a formal contract requiring me to teach without payment. In a phone call to the Chairman, he said that they wanted to use my technical background so I would have to teach. I modified their letter/contract to reflect what I was willing to commit to. They never responded back.

My last volunteer attempt with the same university was with the engineering department’s Dean. We discussed having a cadre of retired engineers, of all disciplines, on call to help any of the school’s engineering departments with free advice. The Dean and his assistant provided enthusiastic support while I rounded up about 25 local retired engineers. We had a nice luncheon meeting with the departments’ heads during which these volunteers greatly impressed them with their diversity and depth. However, only one or two retirees were ever requested to help.

Yes, I have had very positive volunteer experiences as well. I was a volunteer for a Washington, DC organization that reads college texts onto tape for blind students. This group, I do not remember their official name, does a lot of good work. Until personal health problems intervened, I regularly operated the taping process as training to learn how to read the texts.

Another very positive ongoing experience is with the Smithsonian Institution, National Air and Space Museum. I used to work in their Aeronautics Department on various research projects that fit within the electronics category. I also started to write little overview books for internal education and reference use on communications satellites, radar, antennas and radiation hazards. I still write these books for them even though I now live in Florida. (My current writing efforts are on microwave technology.) The Smithsonian does an excellent job using volunteers in applications that fit their backgrounds and interests.

**Donald J. LeVine, Life Senior
Boynton Beach, Florida**

Have a volunteer tale to tell? Even a tale about volunteering in the IEEE? Hint. Send it to us. The address is on page 8. Or get a volunteer experience by starting a Life Member Chapter and let us know how it goes.

LMF update

At year-end 2000, the total, preliminary contributions were approximately \$175,000 (USD) for the Life Member Fund. This money supports a number of on-going and new programs. For example, it supports Life Member Chapter start-ups, Student Prize Paper contest, WISE internships, the IEEE Virtual Museum (under construction), LM Graduate Fellowship, RE-SEED, IEEE Student Branch Centers of Excellence and this newsletter. More information for some of these programs is listed to the right. You can also check out the LM web site for a full listing.

All donations are greatly appreciated. If you wish to contribute, please make your check payable to the “IEEE Life Member Fund.” Please send it to the address listed in “Where to write” on page 8. Thank you.

Can you help?

The Microwave Theory & Techniques Society is creating an MTT Gallery within the IEEE Virtual Museum. A major goal is to provide, in one place, a historical view of microwaves from a global perspective.

The Society is looking for colleagues interested in collecting and generating the historical/technical material for this gallery. More details are available at the MTT website: <<http://www.mtt.org/miscellany/fiftyanniv/fiftyanniv.html>>

**Peter Staecker, Division IV Director
p.staecker@ieee.org**

Creditworthy service

Bill Middleton (LF), a member of the IEEE LMC, died 12 August 2000. He joined AIEE (an IEEE parent) as an EE student at Penn State in 1943. Bill then served as a volunteer for close to 50 years at the local, regional and Board levels. In 1990, the IEEE Regional Activities Board approved the *RAB William M. Middleton Distinguished Service Award*. The award’s purpose is to honor individuals who provide long and sustained service to the Regional Activities that he unselfishly personified. As Bill once stated, “don’t worry about taking credit for things. There is more personal satisfaction in seeing them happen and knowing you had a big hand in it.” He will be sorely missed.

Resolution for William W. Middleton

The IEEE Life Members Committee extends our most heartfelt sympathy to the Middleton family on the passing of William W. Middleton. During his career he made many noteworthy contributions to IEEE. His continued support of the Engineering Profession and the IEEE is an enviable accomplishment. We are especially grateful for his dedicated service to the IEEE Life Members Committee (1998-2000). His absence will be deeply felt by his many IEEE colleagues.

Student Branch Centers of Excellence. With 21 Branch centers worldwide approved so far, these Centers provide a focus for IEEE activities on campus with regard for local interests and needs. Student Branches must submit proposals and follow-up reports for grants up to \$5,000 (USD). Interested Life members can e-mail <student-services@ieee.org> for copies of winning proposals and/or reports.

WISE. The Washington Internship for Students of Engineering program allows engineering students to learn how government officials make decisions on complex technological issues.

RE-SEED. Life members are essential to this program (Retires Enhancing Science Education through Experiments and Demonstrations) which prepares engineers, scientists and others with a science background to assist middle school science teachers with educating students about science.

Web site: <http://www.reseed.org/>

Toll free phone: +1 888 742 2424;

Phone: +1 617 373 8388

E-mail: reseed@lynx.neu.edu

Write: RE-SEED, Northeastern University,
Suite 378 CP, 716 Columbus Ave.,
Boston, MA 02120

LM Chapters. A Life Member Chapter can help Life members and other IEEE members remain active and involved. The LMC makes funding available as seed money. Dan Jackson oversees this program for the LMC as the Regional LM Chapter Liaison. For more information about creating a LM Chapter contact him, your Regional LM Chapter Coordinator or Life Members Committee Staff Support.

Region	Coordinator	Email Alias
1	Edward Altshuler	edward.altshuler@hanscom.af.mil
2	TBA	lm-chapter@ieee.org
3	Dave McLaren	d.mclaren@ieee.org
4	Norbert R. Orszula	b.r.orszula@ieee.org
5	John Martin	jo.martin@ieee.org
6	Len Carlson	l.carlson@ieee.org
7	Ron Potts	potts@mail.caninet.com
8	TBA	lm-chapters@ieee.org
9	Eduardo Bonzi Correa	e.bonzi@ieee.org
10	Matt Darveniza	matt@elec.uq.edu.au

Dan Jackson, Regional LM Chapter Liaison, 5704 Castle Rock Road, Roanoke, VA, USA 24018, E-mail <lm-chapters@ieee.org>

Life Members Committee, 445 Hoes Lane, Piscataway, NJ, USA 08855-1331, Phone: +1 732 562 5515, Fax: +1 732 463 3657, E-mail <lifemembers@ieee.org>

LM Web site: Lists LM relevant IEEE Bylaws, the LMC activities and funded programs and projects as well as reports on recent LMC meetings and more. Check it out: <www.ieee.org/lmc>.

Getting ahead of the game plan

In August of 1942, I was a member of the Signal Corps Electronics Training Group 12 (ETG-12). I was assigned to the Royal Air Force (RAF) 532 Squadron at Hibaldstowe, England. This was a night fighter squadron that flew two airplane models. One was the radar equipped Havocs that were Douglas A-20 with a ton of batteries in the bomb bay and a searchlight in place of the nose. The others were Hawker Hurricanes retired from the Battle of Britain front lines in favor of the faster Spitfires.

The *modus operandi* was for ground radar to vector the Havoc onto the trail of the enemy intruder, close in with radar and illuminate the intruder with the searchlight. At that point, the Hurricane would shoot it down.

However, what often happened was that the 200-knot Havoc would outpace the 170-knot Hurricane. This resulted in great embarrassment when the Hurricane was not there to shoot when the light came on. This was like shining your flashlight at a robber who has a gun and you don't. Needless to say, this strategy was phased out very quickly.

John O. Renskers, Life Senior
Crystal Lake, IL

Marshall station

Several Morse code wireless firms were active on the Pacific coast in the early years. American De Forest Wireless Company operated its spark transmitter at the *Palace Hotel* in San Francisco. Their call was PH derived from the Palace Hotel name. This was a very noisy operation that bothered the guests at the hotel. The hotel wanted it moved.

The 1906 earthquake and fire settled the matter by destroying the hotel. American De Forest was then bought out by United Wireless to help it meet the great demand for the ship-to-shore Morse code service and for the other transmitters built in the San Francisco Bay area. The Marconi Wireless Telegraph Company of America took over United and the old Massie Wireless stations in 1912.

Also in 1912, Guglielmo Marconi decided to build the world's most powerful land station network to connect the US with Hawaii and the Orient while still improving its ship-to-shore station, KPH. (An international agreement on 1 July 1911 required a radio operator to be aboard many ships and specific frequencies were assigned to stations to avoid interference. That is when the call PH became KPH.)

Marconi Wireless established nine other Pacific Coast stations between 1911 and 1917—five in California, two in Oregon and two in Washington. In 1913, Marconi selected Marshall on the eastside of Tomales Bay in California for his operations site and receiving station. The transmitting station was to be in Bolinas on the Pacific Ocean...26 miles south, all in Marin County north of San Francisco and the Golden Gate. Marconi was specializing in high power point-to-point service across the Pacific.

The first transmission from Bolinas was on 24 September 1914. It was a message from President Woodrow Wilson sent to Hawaiian Governor Pinkham. The telegraph operators were at the Marshall station where the receiving station was located. Transmissions went to Bolinas via landline. The Bolinas transmitter was the most powerful in the world at the time, 300 KW. This required a 29 mile 11 KV Pacific Gas and Electric Company power line from the Alto Substation in east Marin over the coastal mountains to Bolinas. The Alto substation had existed since 1903 when Northwestern Pacific electric commuter trains started running to the ferry to San Francisco.

The Marshall site is now a California State Park known as the Marconi Conference Center and the Marconi Building has been preserved as a National Historical Landmark. My wife and I attended the Marconi plaque dedication ceremonies at the Conference Center on 8 September 1990. Mrs. Marconi and her daughter were also there.

My thanks to my neighbor Dewey Livingston, Historian, under contract with the National Park Service, for the use of his unpublished manuscript, "Wireless Giant of the Pacific," for some of the facts.

Bob Wing, Life Member
Inverness, CA

Clocking computer progress

Computer clock rates are now reputedly at 1 GHz. Although I missed the big War, I was drafted during the Korean conflict (the fifties) and posted to the Ballistic Research Laboratories (BRL) at Aberdeen Proving Ground, Maryland. There the ENIAC was still running productively.

Its master clock was a standard HP sine wave audio oscillator covering the range 20-20 kHz. The audio-frequency range was the expected ENIAC clock speed. On good days, the machine's baby-sitters could nudge the big frequency dial slightly higher in order to run the extensive calculations a bit faster. Generally, 12-15 kHz was the limit, above which uncorrectable errors would occur, and the calculation would have to be reinitiated. No one ever heard the terms "crash" or "reboot."

One day, many of the vacuum tubes (dual triodes) and other components had been replaced, and they went for maximum speed. A minor celebration ensued at BRL when a ballistic table ran to completion at the literally unheard-of oscillator frequency of 18 kHz.

About that time EDVAC came on line, then ORDVAC. I remember booting ORDVAC—whose memory was all volatile—by manually touching a probe to the appropriate pins of two 40-bit registers (upper pin of each bit for ONE, lower pin for ZERO) then hitting a "go" button on a punched card reader. The boot sequence was a repeated execution of just these two words that would read one card image (12 rows of 80 bits), resulting in an initial memory load of 24 binary words. That was the BIOS. The rest was up to the application programmer working in machine language.

Roger L. Boyell, Life Senior
Moorestown, NJ

In response to...

The "tiny pentode" to which Hans Schroeder refers was the RV12P2000 ("Needing each other to get by," 2nd/3rd qtr. 2k LM newsletter). One very useful feature was that the heater requirement was minimal (12.6V and 60mA). This made it possible to use a capacitor as a voltage-dropper in series with series-connected heaters. Although we used it also as a rectifier, there was actually a "proper" rectifier, I believe the RV12P2001. But they were scarce, whereas there were hundreds of RV12P2000.

Bob Eldridge, Life Senior
Pemberton B.C. Canada

We have concurrence!

In the last "Life Members Newsletter" (2nd/3rd qtr 2k), I read with interest the continuing discussion about the meaning of H2S, the British Bombing aid from WWII. D.H. Pearse suggested that its meaning could be authenticated with a statement by Wing Commander Saward in his book, *Bomber Harris*. Unfortunately, it would seem that memories are at fault. It was not Lord Cherwell who was involved in the program to develop H2S, but Professor Lindemann.

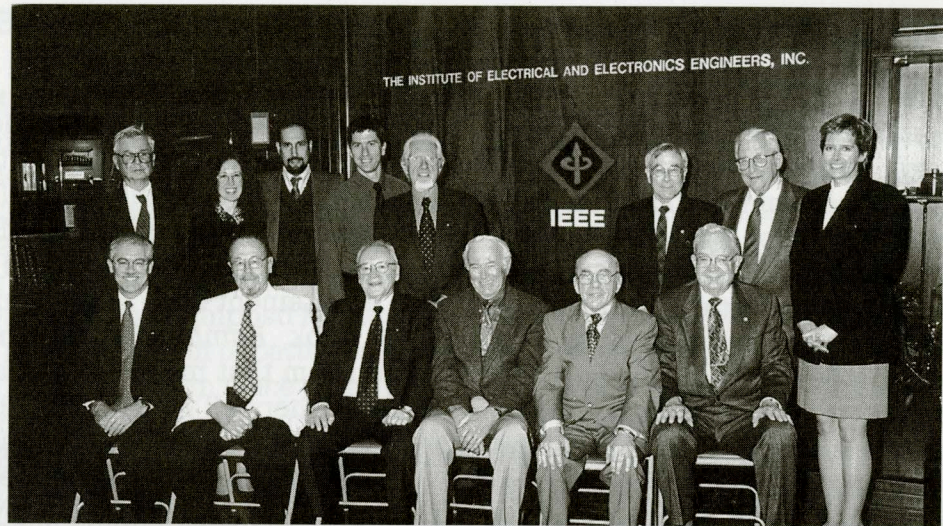
This aspect was discussed in the 2nd/3rd quarter 1999 LM newsletter by Commander Cowin quoting from R.V. Jones book, *The Wizard War—The Most Secret War in the U.K.* On page 319, Jones recalls that H2S had been chosen based on a remark by Professor Lindemann that "It stinks" when he felt the program wasn't getting enough effort. When Lindemann asked why this designation had been chosen, a quick-witted person said, "Home, Sweet Home." This was done to cover up for a potential embarrassment, not as a proposed name for the equipment that, in fact, did become H2S. The conclusion must be that at no time were the letters intended to reflect the true nature of the equipment. Even the "Height to Surface" I have heard is untrue. Nor, it would seem, was "Home Sweet Home" in common usage, probably because it had nothing to do with getting home safely.

And.....

I was also interested to read the item by Hans Schroeder about the German "Universal Tube." The tube he refers to was the RL12P2000, a very clever design. It was not only able to be used as anything from a Diode to a Pentode; but it was also housed in a molded plastic holder that entirely covered the glass envelope, thus providing physical protection.

The base was flat with short pins at the sides. In the center was a threaded hole into which screwed a little handle for removal. In operation, the tube could not be removed without a handle and presented a flat disc in the midst of other circuitry. Another excellent German tube was the RL12P35 Power Pentode (35W-plate dissipation) which I used as a PA on the old 5 meter amateur band, and at lower frequencies.

Geoffrey M. Ward, LM
Weston Town, Evercreech Somerset
ENGLAND



IEEE Life Members Committee (16 October 2000)

Front Row: (L-R) Daniel J. Senese - IEEE Executive Director, Richard J. Jaeger, Jr, Arthur W. Winston - Chair, B. Leonard Carlson - Vice Chair, Irving Engelson, Richard S. Nichols

Back Row: (L-R) Carol B. Mullis, Mary Campbell - RAD Staff, Michael Geselowitz - History Center Staff, Daniel C. Toland - RAD Staff, Wasyl Janischewskij, Daniel W. Jackson, Arthur P. Stern, Cecelia Jankowski - Secretary (Staff)

Donating historic artifacts/pubs

Life members often ask the IEEE History Center about donating historic artifacts and publications, particularly collections of old IEEE periodicals. Because of space limitations, the IEEE History Center regrets that it is unable to accept donations of artifacts and most old journals or books. However, there are museums and archives that are very interested. Recently, we have had the idea of promoting connections through our ECHOES bulletin board <http://www.ieee.org/history_center>.

Our evidence is anecdotal and spotty. (Like a site such as E-bay, the two parties are encouraged to contact each other directly rather than through us.) But although the program is quite young, we have already received several notes thanking us for the service and indicating that it has been a success. We urge the readers of this newsletter who may be retiring, moving, housecleaning or whatever, to consider posting their treasures on ECHOES.

By the way, the IEEE History Center is always interested in IEEE quasi-publications, such as Society newsletters or programs from events such as IEEE awards ceremonies. We are also interested in secondary sources on the history of electrical engineering and computing, and in historic textbooks.

IEEE History Center Staff

LMs support IEEE Milestone Program

The IEEE History Center administers for the IEEE History Committee the IEEE Milestones Program. This program honors at the Section level significant achievements in electrical, electronic and computer engineering. To start the process, an IEEE Section proposes an achievement. The IEEE History Committee screens the proposal. The Committee then invites a full documented nomination if deemed worthwhile. After the IEEE History Committee and IEEE Executive Committee approve the proposal, a bronze plaque is cast (cost approximately \$500). Lastly, a dedication ceremony is held by the Section.

Ordinarily, the Section is responsible for the cost of the plaque. However, as a pilot program, the IEEE Life Members Committee (LMC) will be sponsoring up to four plaques in 2001.

You can act alone, or an IEEE Life Member Chapter may wish to shepherd an IEEE Milestone nomination. Please note that the complete nomination process can take up to six months. Also, the Section may incur other costs with the Dedication Ceremony. In the past, corporate sponsorship has frequently been obtained for some/all of these costs. The History Center staff can help with these arrangements. More details are at <http://www.ieee.org/history_center>.

IEEE History Center Staff

Internet for the chronologically challenged

Caution: The Internet can be hazardous to your wealth!

This piece's title is not referring to vendor fraud or stealing credit card numbers on the Internet. It is a much more subtle threat than that. So let me explain.

To make a long story short, I just ordered a new notebook computer and the Internet made me do it. By the time I add the updated software that I will need for today's Internet environment, I know that I will have spent well over \$3000 (USD). Based on the typical rate of obsolescence, that's probably \$1000 a year just to be able to function.

Like many of you, I have become completely addicted to and dependent upon the Internet. Nancy and I spend a good part of the year either at our vacation home in New York's Adirondacks or with my daughter's family in "small-town" Minnesota. (The latter's printed link to the world outside Minnesota is five copies of *USA Today* delivered to a convenience store with the 10 o'clock mail.) Without an Internet connection, you can really feel out of touch. That's okay for a week or so, but not for months at a time. A mobile computer is essential.

Unfortunately, my 1995-vintage IBM 360CSE laptop has finally run out of steam (or more accurately, space on a 340-megabyte hard drive). I have nursed this baby along through *MS/DOS 7.0*, *Windows 95*, an *MS Office* upgrade and several new browsers.

The final blow came in the midst of last summer's NASDAQ disaster. Suddenly, I was no longer able to access my brokerage account. The IT guys had "improved" the web site over the weekend. As a result, browsers older than *Internet Explorer 4.0* no longer worked. What about downloading, for free, *Internet Explorer 5.5*? Here was the catch—the download requires about 40 megabytes of free disk. Stripping out everything that I didn't really need I could only come up with 30. Besides, it would have taken virtually all night to transfer the data using my 1995-vintage modem.

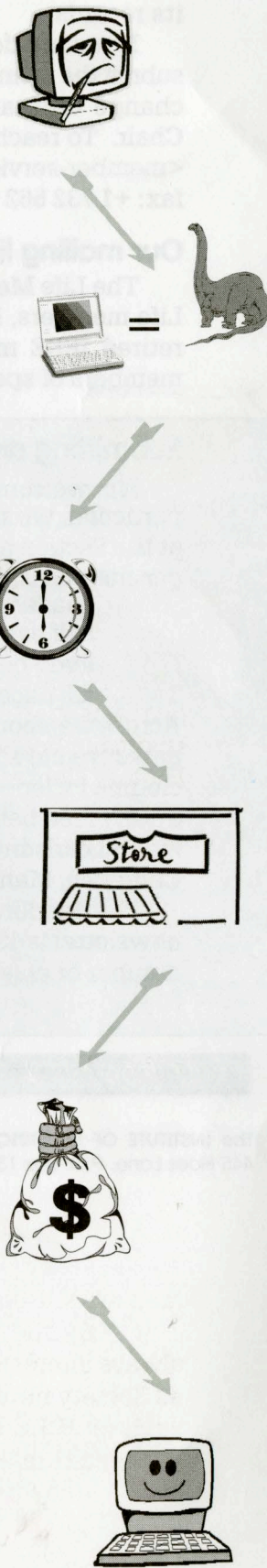
Nancy, disgusted with my trying to salvage this tired, old machine for hours at a time, finally said, "I'll buy you a new one." Enough said. But now the problem was "What to buy?" First, I read the trade journals to find out which manufacturers of notebook computers had the best reputations for quality, reliability and service. Then (using my desktop machine) I went to those particular manufacturers' web sites to determine what models were currently available and at what price. Finally, I checked with CNET (www.cnet.com) to read reviews and user opinions of specific models. As usual, the reviews were of last year's models, but I got the flavor.

Having made my decision, I went to that manufacturer's site for a final "customization" and a price quote. Customization is one more Internet money trap. At a computer store, I would have settled for a machine that was about right, but now discontinued and on sale. Buying directly enables you to get everything you want, but...at a price. For example, I was able to buy the machine pre-loaded with *Windows 2000*, something not easy to find on a sale-priced machine at the time.

Did I complete the transaction by e-commerce? I am sorry to say I did not. There were some specs that needed clarification and I had a delivery time problem. I picked up the phone and talked to a human being. He was more than happy to take my now completely defined order. The bottom line was 30 times the capability at about the same price as a machine bought in 1995. Amazing!

Now a final word on cookies. Thanks to helpful advice from readers, I now have a personal strategy: accept all cookies for convenience and then delete all but the most important ones on a regular basis. But beware. I have just learned that some sites actually charge established customers more than they do new customers. How's that for a kick in the head?

Fred Andrews, Life Fellow
f.andrews@ieee.org



Stopping IEEE services

Those who wish to have all services stopped should contact IEEE Member Services (use the NJ address on this page). Phone calls are accepted but submitting this request by fax, e-mail or snail mail is preferred. This way IEEE has something for its records.

If you are doing it as a favor for someone else, submit the member's name, number, grade, address, change date and your connection, e.g. Section Chair. To reach IEEE Member Services via e-mail <member-services@ieee.org> or fax: +1 732 562 6380.

Our mailing list

The Life Members Newsletter is distributed to Life members, IEEE members 65 years and older, retired IEEE members aged 62 through 64 and members of special boards and committees.

Submitting articles

We welcome articles for this newsletter. In particular, we seek articles about projects initiated at the Section and Region level by Life members. In general, published story lengths are:

quarter page—175 words

half page—350 words

three-quarters page—525 words

full page—700 words

Acronyms should be spelled out once. Reference dates (years) should also be included. Editing, including for length, may occur. If you wish to discuss a story idea beforehand, you may contact me by e-mail <l.carlson@ieee.org>. Or, you may call Mary Campbell, Managing Editor, at +1 732 562 5526.

The deadline for possible inclusion in the next newsletter is 13 June 2001. Please include a phone number or an e-mail address.

Len Carlson, Editorial Liaison

2001 Life Members Committee

Arthur W. Winston, Chair
a.winston@ieee.org (E-mail)

Edward E. Altshuler

edward.altshuler@hanscom.af.mil

B. Leonard Carlson,

Vice Chair

l.carlson@ieee.org

Irving Engelson

i.engelson@ieee.org

Daniel W. Jackson

d.jackson@ieee.org

Richard J. Jaeger, Jr.

r.j.jaeger@ieee.org

Wasył Janischewskyj

w.janischewskyj@ieee.org

Richard S. Nichols

r.nichols@ieee.org

Theodore S. Saad

t.saad@ieee.org

Arthur P. Stern

apstern@worldnet.att.net

Cecelia Jankowski

Secretary (Staff)

c.jankowski@ieee.org

Administration Manager, Regional Activities: Dan Toland

Managing Editor: Mary K. Campbell

Desktop Publishing: Helen A. Shiminsky

Website Specialist: Felicia Taylor

Qualifying for LM status

To qualify as a Life member, an IEEE member must be at least 65 years old, and the sum of the member's age and the number of years of paid membership must equal or exceed 100 years.

Where to write

Have questions, opinions or problems? Contact the Life Members Committee or its Staff by writing to: IEEE Regional Activities, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, Fax: +1 732 463 3657 or E-mail to: <life-members@ieee.org>.

The INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS, Inc.
445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, USA

Non Profit Org.
U.S. Postage
PAID
IEEE
Piscataway, NJ
Permit #52

F 180 #169

00161695 739
R M SHOWERS
UNIV OF PENNSYLVANIA
DEPT OF ELECTRICAL ENG
200 S 33RD ST
PHILADELPHIA PA 19104-6390
|||||