

The Dipole

Radiating the News of the Marple Newtown Amateur Radio Club

January 2008

Next Club Meeting: Thurs. Jan. 3rd, 7 p.m. at The Gauntlett Center

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A PROGRAM FOR LIFE

Tom Tenaglia, K3TAT, will return as the program presenter at the Marple Newtown Amateur Radio Club meeting on Thursday, January 3, 2008. Mr. Tenaglia, a recent graduate of Drexel University, has also completed advanced studies in programs that empower participants with techniques to empower their lives. He describes these techniques as NLP (neuro-linguistic programming), Time Empowerment™ techniques, and hypnosis. Tom's studies include the interwoven application of all three of the modalities mentioned.

NLP, Time Empowerment™ techniques, and hypnosis have multiple applications, including vocational and other non-work applications. Tom Tenaglia volunteered, "I will briefly go through the three modalities (NLP, TET, and Hypnosis), do a group-goal-setting process, and end with a demo of deep trance phenomena."

Literature promoting this concept states this program can provide tools applicable in business for sales, management, communication, and coaching, as well as teaching, sports, therapy, and personal growth.

While not specifically listed, could this program aid in better operating practices, mastering of Morse Code for those who strive to add this to their operating skills, better retaining of theory and regulations, and other growth areas of Amateur Radio? For these answers, readers of the *eDipole* should attend the upcoming MNARClub meeting, which happens to be taking place on Tom's birthday, Thursday, January 3rd.

The IRLP and Hypnosis programs that Mr. Tenaglia previous did for the MNARC were both entertaining and informational. His growth in the supporting techniques has increased his skills.

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The Dipole

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Meetings, Nets, and Packet BBS

Monthly Club Meetings: First non-holiday Thursday,
7:00 p.m. at the Gauntlett Center in Newtown Square,
Delaware County. Talk-in: 147.195 repeater
Daily Weather and Information Net: Every morning at 8:30
a.m. on 147.195 repeater
Club Web Page (including online version of *The Dipole*):
<http://mnarc.org>
Delaware County ARES Net: Every Wednesday at 19:30 local

Pennsylvania 6-5000

One evening during a discussion Jim Biddle (W3DCL) and Dennis Silage (K3DS) were talking about famous telephone numbers. One of the local numbers was POplar 5-0303. To help mature readers, the identity of this local number was a part of rhyming phrase, “. . . for Muntz TV.

For people who did not live in or near metropolitan areas, Muntz knew he could get his engineers to continue to design television receivers that would be very simple and inexpensive that would work fine in strong signal areas.

As the circuits shrank, the price shrank, and as his sales volume grew, he achieved economies of scale that made the sets even cheaper to make.

Some might call the “re-designing” done by Madman Muntz and his staff, butchering. What they did was to eliminate circuits until they reached a “no signal” condition.

Restoring the last circuit would provide the needed design for high signal areasrfs For example, he knew he could get away with two IF stages and his sets would not need what he called “fancy loops and tubes.”

He also was inventing a new way of selling – volume is profitable. As the circuits shrank, the price shrank, and as his sales volume grew. It worked for him. He had achieved economies of scale that made the sets even cheaper to make.

One telephone number is probably the most famous in the United States. Its fame has been created in several differing arenas. That phone number is PEnsylvania 6-5000

A part of the fame for PEnsylvania 6-5000 is its honor of being the oldest continuing telephone number in New York City, New York. This historic telephone number belongs to the Hotel Pennsylvania. It has been in continuous use since 1919.

Depending upon the age of the readers of the **eDipole**, the use of the name Pennsylvania in the phone number may be foreign concept. Today, despite the efforts of the Anti-Digit Dialing League, this telephone number is now known by its digit equivalent. The first two letters “PE’ in PE6-5000 have now become known as the numbers “7” and “3.”

Incorporating another generation of change, the establishing of Area Codes, the current Hotel Pennsylvania’s phone number now is known as 1-212-736-5000. While the older, rotary dial and its musically famous Pennsylvania 6 5000 have been displaced, the music world still supports the older name.

Many big name bands, including the Dorsey Brothers, Count Basie, and Duke Ellington have played in the Hotel Pennsylvania’s Café Rouge.

None were as famous as the Glenn Miller band. This famous phone number was the inspiration for the Glenn Miller song having this title.

In a reflection of the fame of this number and its followers, this number also inspired both a cartoon and a film with the name, "Transylvania 6-5000. In yet another form of flattery, the famous phone number was also associated with the film "Breakfast at Tiffany's" and the Milli Vanilli song, "Don't Forget My Number."

One of the goals of the commercial and the non-profit world is branding. The Glenn Miller song has provided a lasting identity for the famous New York City hotel.

Thoughts of Wandering Mind

- I had amnesia once ---- or twice
 - Protons have mass? I didn't even know they were Catholic.
 - I am neither for nor against apathy.
 - All I ask is a chance to prove that money can't make me happy.
 - If the world were a logical place, men would be the ones who ride horses sidesaddle.
 - What is a "free" gift? Aren't all gifts free?
 - They told me I was gullible and I believed them.
 - Teach a child to be polite and courteous in the home, and when he grows up, he'll never be able to merge his car onto the freeway.
 - Experience is the thing you have left when everything else is gone.
 - One nice thing about egotists...they don't talk about other people.
 - My weight is perfect for my height...., which varies.
 - I used to be indecisive. Now I'm not sure.
 - The cost of living hasn't affected its popularity.
 - How can there be self-help groups?
 - If swimming is good for your figure, how do you explain whales?
 - Show me a man with both feet firmly on the ground, and I'll show you a man who can't get his pants off.
 - Is it just me, or do Buffalo wings taste like chicken?
-

Words of Wisdom

During one of the early December days, one with wind and flirtations with sunshine, an early morning e-mail from Dan Amoroso, W3DI, added sufficient humor to lighted up the rest of the morning. Having children, as do Dan and his wife Edwina, provides an even greater appreciation of this collection of youthful wisdom.

**This collection was
written by kids.**

**You got to find somebody
who likes the same stuff.
Like, if you like sports, she
should like it that you like
sports, and she should keep
the chips and dip coming.**

Alan, age 10

**No person really decides
before they grow up who
they're going to marry. God
decides it all way before,
and you get to find out
later who you're stuck with.**

Kristen, age 10

**WHAT IS THE RIGHT AGE
TO GET MARRIED?**

**Twenty-three is the best
age because you know the**

person FOREVER by then.

Camille, age 10

HOW CAN A STRANGER TELL
IF TWO PEOPLE ARE MARRIED?

You might have to guess,
based on whether they
seem to be yelling at the
same kids.

Derrick, age 8

WHAT DO YOU THINK YOUR MOM
AND DAD HAVE IN COMMON?

Both don't want
any more kids.

Lori, age 8

WHAT DO MOST PEOPLE
DO ON A DATE?

Dates are for having fun,
and people should use them
to get to know each other.
Even boys have something
to say if you
listen long enough.

Lynnette, age 8

(isn't she a treasure)

On the first date, they just
tell each other lies and that

usually gets them interested
enough to go
for a second date.

Martin, age 10

WHAT WOULD YOU DO
ON A FIRST DATE THAT
WAS TURNING SOUR?

I'd run home and play
dead. The next day I would
call all the newspapers and
make sure they wrote about
me in all the dead columns.

Craig, age 9

WHEN IS IT OKAY
TO KISS SOMEONE?
When they're rich.

Pam, age 7

The law says you have to be
eighteen, so I wouldn't
want to mess with that.

Curt, age 7

The rule goes like this: If
you kiss someone, then you
should marry them and have
kids with them. It's the
right thing to do.

Howard, age 8

**IS IT BETTER TO BE
SINGLE OR MARRIED?**

**It's better for girls to be
single but not for boys.
Boys need someone to clean
up after them.**

**Anita, age 9
(bless you child)**

**HOW WOULD THE WORLD
BE DIFFERENT IF PEOPLE
DIDN'T GET MARRIED?**

**There sure would be a lot
of kids to explain,
wouldn't there?**

**Kelvin, age 8
(just LOVE this one)**

And the #1 Favorite is.....

**HOW WOULD YOU MAKE
A MARRIAGE WORK?**

**Tell your wife that she
looks pretty, even if she
looks like a truck.**

Ricky, age 10

Changes in DXCC

From time to time, the ARRL-DXCC list undergoes a re examination. A recent (December 14, 2007) announcement from the ARRL not only provided the information that St. Barthelemy (FJ) was being added to the DXCC list, this text also provided some insight to the process that is responsible for these changes.

The ARRL DXCC Desk is pleased to announce the addition of St Barthelemy (FJ) to the DXCC List, making the island entity number 338 with an effective date of December 14, 2007.

Cards with contacts dated December 14, 2007 or after will be accepted for DXCC credit. New card submissions for St Barthelemy will not be accepted until January 1, 2008 in order to allow time for administrative adjustments.

On February 21, 2007 the French Ministry issued a decree making St Barthelemy an Overseas Collective, where its status is now equal to that of Guadeloupe, Martinique and other French territories currently on the DXCC List.

On November 8, 2007 the President of Association Des Radio Amateurs De St Barthelemy, Philippe Delcroix, FJ5DX, contacted the DXCC Desk, requesting that St Barthelemy be considered a new DXCC entity.

The "event date" that caused St Barthelemy to be added to the DXCC list was December 14, 2007, the date the US State Department added St Barthelemy to the "List of Dependencies and Areas of Special Sovereignty" with its Administrative Center in Gustavia, qualifying it under DXCC rules in Section II - 1 Political Entities (c): "The Entity contains a permanent population, is administered by a local government, and is located at least 800 km from its parent.

To satisfy the 'permanent population' and 'administered by a local government' criteria of this sub-section, an Entity must be listed

on either (a) the U.S. Department of State's list of 'Dependencies and Areas of Special overignty' as having a local 'Administrative Center,' or (b) the United Nations list of 'Non-Self-Governing Territories.'"

French St Martin (FS), while also added to the List of Dependencies and Areas of Special Sovereignty, now considered a Point 1 Political Entity under the same classification as that of St Barthelemy.

Please direct any questions you may have about St Barthelemy, St Martin or the DXCC program to the ARRL DXCC Desk <dxcc@arrl.org>.

An After-Holiday Student Paper

After Christmas, a teacher asked her young pupils how they spent their holiday away from school. One child wrote the following:

We always used to spend the holidays with Grandma and Grandpa. They used to live in a big brick house but Grandpa got retarded and they moved to Florida.

Now they live in a tin box and have rocks painted green to look like grass. They ride around on their bicycles and wear name tags because they don't know who they are anymore.

They go to a building called a wreck center, but they must have got it fixed because it is all-okay now, they do exercises there, but they don't do them very well. There is a swimming pool too, but they all jump up and down in it, with hats on. At their gate, there is a doll house with a little old man sitting in it.

He watches all day so nobody can escape. Sometimes they sneak out, and go cruising in their golf carts.

Nobody there cooks, they just eat out. And, they eat the same thing every night --- early birds.

Some of the people can't get out past the man in the dollhouse. The ones, who do get out, bring food back to the wrecked center for pot luck.

My Grandma says that Grandpa worked all his life to earn his retardment and says I should work hard so I can be retarded someday too.

When I earn my retardment, I want to be the man in the doll house. Then I will let people out, so they can visit their grandchildren.

Phonetic History

During research on an antenna in two older editions of the ARRL's handbook, it was learned that each of the two editions published its own "official" phonetic alphabets. This created a curiosity about the choices of alphabets in each of the books.

The listing in the 26th edition of the Handbook listed the following "official" 1949 version of the Amateur Radio phonetic alphabet...

A	ADAM
B	BAKER
C	CHARLIE
D	DAVID
E	EDWARD
F	FRANK
G	GEORGE
H	HENRY
I	IDA
J	JOHN
K	KING
L	LEWIS
M	MARY
N	NANCY
O	OTTO
P	PETER
Q	QUEEN
R	ROBERT
S	SUSAN
T	THOMAS
U	UNION
V	VICTOR
W	WILLIAM
X	X-RAY
Y	YOUNG
Z	ZEBRA

Before the clarity of the FM mode of operation, there were many areas of verbal confusion. AM radio was not known for its clarity and fidelity. To help in eliminating mistakes, the phonetic alphabet was created. By using a word that became the accepted equivalent for each letter, the confusions that may exist between similar sounding letters, such as "B" and "C" were eliminated.

It should be note it is not just the Amateur Radio world that employs a phonetic alphabet. All layers of government, civilian and military radio operators use a phonetic alphabet for communications. This helps in radio communications around the world by ships, aircraft, and amateur radio operators.

History and Current Military Phonetic Alphabet

Since radio became an important tool of military operations, the US armed forces have used several different phonetic alphabets. That explains why movies in the World War II era used that period's choice of phonetics of "Able Baker Charlie." Soldiers of today would choose "Alpha Bravo Charlie" for the same three letters of ABC.

The following chart shares a collection various phonetic alphabets ranging from 1913 through today.

Letter	1913	1927	1938	World War II	1957-Present
A	Able	Affirmative	Afirm	Afirm (Able)	Alfa
B	Boy	Baker	Baker	Baker	Bravo
C	Cast	Cast	Cast	Charlie	Charlie
D	Dog	Dog	Dog	Dog	Delta
E	Easy	Easy	Easy	Easy	Echo
F	Fox	Fox	Fox	Fox	Foxtrot
G	George	George	George	George	Golf
H	Have	Hypo	Hypo	How	Hotel
I	Item	Interrogatory	Int	Int (Item)	India
J	Jig	Jig	Jig	Jig	Juliett
K	King	King	King	King	Kilo
L	Love	Love	Love	Love	Lima
M	Mike	Mike	Mike	Mike	Mike
N	Nan	Negative	Negat	Negat (Nan)	November
O	Oboe	Option	Option	Option (Oboe)	Oscar
P	Pup	Preparatory	Prep	Prep (Peter)	Papa
Q	Quack	Quack	Queen	Queen	Quebec
R	Rush	Roger	Roger	Roger	Romeo
S	Sail	Sail	Sail	Sugar	Sierra
T	Tare	Tare	Tare	Tare	Tango
U	Unit	Unit	Unit	Uncle	Uniform
V	Vice	Vice	Victor	Victor	Victor

W	Watch	William	William	William	Whiskey
X	X-ray	X-ray	X-ray	X-ray	X-ray
Y	Yoke	Yoke	Yoke	Yoke	Yankee
Z	Zed	Zed	Zed	Zebra	Zulu

As all Amateur Radio know, communications will also include numbers. Our Federal Communications Commission issued licenses are an example the combined uses of letters and numbers.

The following is a table that aids in the accepted pronunciations of the ten foundation numbers.

There is a similar military phonetic system for numbers...

Figure	Pronounced
0	Zeero
1	Wun
2	Too
3	Tree or Thr-ree
4	Fower
5	Fife
6	Siks
7	Seven
8	Ate
9	Niner

If a decimal point is included in the number, it is identified by the pronunciation of DAY-SEE-MAL. Experienced communications have been trained to say "FIGURES" before starting a string of numbers.

Today, this accepted collection of pronunciations has universal usage. This is borne out by the use of this basic alphabet by NATO, the multinational and multilingual uniform force made up of personnel from countries that are accepted within the North Atlantic Treaty Organization (NATO).

This minor change is seen in only a simple alteration in the current pronunciation.

1	Wun
2	Two
3	Tree
4	Fower
5	Fife
6	Six
7	Sevan
8	Ait
9	Niner
0	Zero

How It All Started

It did not start off like this - over time, the phonetic alphabet has evolved. The phonetic alphabet is a system created by the NATO allies in the 1950s that would be intelligible and pronounceable to all NATO allies in the heat of battle. It has another name - the radiotelephony spelling alphabet. It requires words to be spelt out by their letters; for example, arm becomes Alpha Romeo Mike, and south becomes Sierra Oscar Uniform Tango Hotel. All the letters sound different, so there is no confusion over long distances over what people are saying. The reason that any phonetic alphabet is (or was) used is because telephone, radio and handheld (walkie-talkie) communications had the habit of crackling over long distances, blotting out whole words or even sentences. The normal alphabet cannot be used, because some letters, for example P, B, C and D sound similar, and over long distances were indistinguishable, so a new method had to be found. When the code was invented it was also considered that consonants are the most difficult to hear against a noisy background. Hence the sequence of vowels in the phonetic code played an important role when the code was invented, so that when you hear a noisy '-oo-oo' you know the letter is a Z. The vowel-sequence thing works for most (though not all) combinations of letters. All of the words are recognizable by native English speakers because English must be used upon request for communication between an aircraft and a control tower whenever two nations are involved, regardless of their native languages. But it is only required internationally, not domestically, thus if both parties to a radio conversation are from the same country, then another phonetic alphabet of that nation's choice may be used.

The NATO Phonetic Alphabet is not the only phonetic alphabet in use, but it definitely is the one used by the most people and countries. From humble beginnings as only being for the NATO allies, it has spread, becoming used in a huge variety of everyday situations. It is used widely in telecommunications and business, as well as being used for call signs for hikers going through areas of bush or forest; and being the internationally recognized way of communicating at sea and by air, using the NATO phonetic alphabet means you can

get what you are saying through wherever you are in the world. It is therefore a very helpful way of communicating information.

Previous Versions

Before the acceptance of the NATO phonetic alphabet, the British already had their own versions. This is one of the versions used by the Brits...

A - Abel	J - Jig	S - Sugar
B - Baker	K - King	T - Tare
C - Charlie	L - Love	U - Uncle
D - Dog	M - Mike	V - Victor
E - Echo	N - Nan	W - William
F - Fox	O - Oboe	X - X-Ray
G - George	P - Peter	Y - Yoke
H - How (or Howie)	Q - Queen	Z - Zebra
I - Item	R - Roger	

During World War II, the phonetic alphabet that was used by the Royal Air Force was one of the alphabets that became famous during films of that era. This is film used by the Royal flyers.

A - Apple	J - Johnny (or Jug)	S - Sugar
B - Beer	K - King	T - Tommy
C - Charlie	L - Love	U - Uncle
D - Dog	M - Mother	V - Vic (or Victor)
E - Edward	N - Nuts	W - William
F - Freddy	O - Orange	X - X-Ray
G - George	P - Peter	Y - Yorker (or Yoke)
H - Harry	Q - Queen	Z - Zebra
I - In (or Indigo)	R - Roger (or Robert)	

Following World War II, many of the pilots and flight engineers who had been civilian and many of the newer, war-spawned flyers returned to the commercial service. They brought back with them the use of one or more phonetic languages.

It was not yet time for the aviation era when English would become the international standard language. That day would come in time. One of the problems arose from the fact that many sounds in the World War II verbiage were unique to English. This resulted in different countries started making their own.

For example, an alternative flight language was the ‘Ana Brazil’ alphabet. It was used in Latin America. This possible use of regional and differing phonetics also caught the attention of the International Air Transport Association (IATA). This universal organization saw the need for a single, universal phonetic alphabet.

The result was a draft alphabet that was submitted to the International Civil Aviation Organization (ICAO) in 1947. This consensus collection incorporated sounds common to English, French, and Spanish. Following periods of review and study by a collection of many governing bodies, there was released the modified phonetic alphabet.

The following is the revised alphabet that was implemented on November 1, 1951...

A - Alfa	J - Juliett	S - Sierra
B - Bravo	K - Kilo	T - Tango
C - Coca	L - Lima	U - Union
D - Delta	M - Metro	V - Victor
E - Echo	N - Nectar	W - Whisky
F - Foxtrot	O - Oscar	X - eXtra
G - Golf	P - Papa	Y - Yankee
H - Hotel	Q - Quebec	Z - Zulu
I - India	R - Romeo	

Because problems were immediately found with this new creation, many users reverted to the old “Able-Baker” alphabet. This resulted because the dissenters felt that the list was so hard to follow.

This prompted a renewed research; one that dealt with identifying the deficiencies of the new alphabet. This testing was conducted using speakers from 31 nations. The moderators for these tests were the governments of United Kingdom and the United States.

Some of the conclusions were found to be the confusion among words like Delta, Nectar, Victor, and Extra, or omission of other words under poor receiving conditions. After much study, only the five words representing the letters C, M, N, U, and X were replaced. The final version was implemented on March 1, 1956, and was adopted shortly thereafter by the International Telecommunications Union (ITU).

Because the ITU governs all international radio communications, all radio operators also adopted it, whether military, civilian, or amateur. In the official international version of the alphabet, “local flavors”

were found in several non-English spellings, such as the words Alfa and Juliett.

This unique alphabet is a wonderful example of international, cooperativeness. Alfa is spelled with an f for the benefit of native Spanish speakers because they will pronounce 'ph' as if it were a p with a silent h — the English word alpha is alfa in Spanish. Juliett is spelled with a 'tt' for the benefit of native French speakers because they will treat a single t as silent — the English word Juliet is Juliette in French, but the ICAO chose not to adopt the final 'e' because it might be misunderstood by native Spanish speakers as indicative of a final syllable 'tuh'.

At some US airports, the use of 'Delta' is avoided because it is also the call sign for Delta Air Lines. 'Dixie' seems to be the most common substitute. 'Foxtrot' may be abbreviated as 'Fox' at United States airports. In British police work the use of 'India' has been replaced by 'Indigo'. Sometimes, in the Philippines, the word 'Hawk' is used for the letter H rather than 'Hotel'.

In Indonesia, the word 'Lima' is seldom used since the word 'lima' means number five (5) in Bahasa Indonesia. Instead, 'London' is most often used.

Many unofficial phonetic alphabets are in use that are not based on the standard, but are based on words the transmitter can easily remember. Often, such ad-hoc phonetic alphabets are based on (mostly) men's names, such as Alan, Bobby, Charlie, David, Edward, Frederick, George, Howard, Isaac, James, Kevin, Larry, Michael, Nicholas, Oscar, Peter, Quincy, Robert, Stephen, Trevor, Ulysses, Vincent, William, Xavier, Yaakov, Zebedee, or on a mixture of names and other easily recognizable (and locally understandable) proper nouns such as US states, local cities and towns, etc.

How many current Amateur Radio operators can remember when one of the popular phonetic alphabets used names of cities for phonetic identification?

Buying Electricity by the Hour

Some people feel that ‘Big Brother’ is invading our lives. Some other have become even more vocal and they hint that “Big Brother” is controlling our lives. What if Big Brother were to offer to

communicate with us and make us an economic offer that might be hard to refuse?

This is being proposed by a major east coast, metropolitan electric provider. They are about to start a program that will send personal e-mail messages to participating customers every few hours. These messages will determine when these customers wash the children's clothes, do the dishes, or turn on the air conditioner.

The e-mail messages will inform the cooperative users that weather influences, both hot and cold will influence the cost of electricity. The most common message will tell of near-future increased rates because of the increased demands spawned by the weather will "escalate" the cost of the utility.

They will also learn that if they wait to turn on the washing machine or turn off the air conditioner when the sun goes down, they will be rewarded with a credit on their next utility bill. There are estimates that this form of managed usage could result in annual credits of hundreds of dollar a year.

In another example of how this program will work one need only look at the use of the long-awaited high-occupancy toll lanes. In this program drivers traveling at the rush hours will pay a fee. In the parallel power program, electricity customers will pay more when the grid is congested and less when it's not.

Two positive fallouts are anticipated with this innovative electric fee program. If the projections are correct, customers will not only slash their bills but this program will also reduce pollution from coal-fired generating plants.

IF one were to marry the computer technology with their appliances, it is not impossible to have the utilities talking directly to the appliances. If this Orwellian concept becomes a reality, we will see our homes controlled by microcircuits that control and shut off the washing machine, dishwashers, and other appliances when the costs of electricity soars.

Not everyone is encouraged by this concept. Consumer advocates have shared their concerns that "time of day" pricing will put the disabled and elderly at a disadvantage. Their special needs often result in their inability to reduce or schedule their electric consumption.

How will the typical system work? Using what have been called "Smart meters," these devices, while looking like their traditional counterparts,

record the home's electricity use every 15 minutes. This data is then electronically fed to the utility.

Current programs will call for the utility to send price information to the participating customers electronically. Methods of communication currently include e-mail, a pager or text message or an automated phone call.

Other companion devices that are being evaluated in these programs include a "smart thermostat." This device will send a radio signal to the participating home to cycle down their central air conditioning for 15 or 30 minutes an hour when power prices are high. When the prices fall, this controlled cycling will be discontinued until it is needed once again.

Currently, the price of electricity being generated and connected to the east coast grids already displays changes depending on the demands. At this time, these fluctuations in cost are not passed on to the consumer. These trial program appear to change this level pricing to a "pay when you use" concept.

It will be in the best interest of the utilities if they were to install these smart devices – meter and thermostats – in every home. Some utilities have boldly stated that they hope to install these devices in every home.

This technology does not come cheaply: Current cost for each meter range between \$180 to \$240. Unless there were to be regulatory challenges, it appears this expense will be passed on to customers. One utility has volunteered that it plans to add a \$6 surcharge to bills of its customers. Trying to sell this program, the utility said an average savings of \$8 a month would offset these extra costs.

Big Brother is alive and well.

Happy Birthday Little Friend

Several years ago, while many people were attempting to prepare for perceived computer-oriented problems with the advent of a new century, other people were being quizzed. They were being asked to pick the most important invention of the 20th Century. One invention headed many of the personal lists obtained during this century-ending poll. That invention, the small, but mighty

transistor had its 60th birthday on Sunday, December 16.

Many of us can honestly pose the question, "Where would we be without the transistor?"

The common answer, again one based upon reality, would be, "We would be no where as comfortable or safe as we are today."

Another entrants with high numbers in the quest for the greatest invention of the 20th Century was radar and its use in protecting Great Britain from the air and the German Luftwaffe and the submarine ravages of the German U-Boats.

Other runners up included the jet engine and the development of nuclear weapon.

Why was the transistor so important? One of the many answers to that question dealt with the need for a compact and convenient electronic digital computer. Digital computing was not new when the transistor was born 60 years ago. After all, Philadelphia's University of Pennsylvania was the home of the milestone device that consumed both large numbers of tubes and an equally impressive amount of electricity.

There was nothing small about any of the parameters of this impressive device. With the advent of the transistor, a new era of computing was born.

The invention of the transistor became a springboard for another, related device. The humble transistor was incorporated with other super miniaturized components to become the semiconductor chip.

Another observation was born from the development of the semiconductor chip. The "chip" helped accelerate the speeding digital revolution possible. It is also safe to state nearly every facet of our lives is touched and influenced by the transistor and its contributions as a stand-alone entity and its inclusion in the microchip.

When Raytheon announced in 1953 they were producing a consumer transistor, this news in Radio Electronics magazine caught the interest of a curious and technically hungry segment of the Amateur Radio Community. This device, the CK 722 was a first in many ways. It was a part of a new vocabulary; it was a "Junction Transistor."

During the historic Raytheon announcement three similar devices were being introduced. The CK721 was marketed as a high gain type. During the manufacturing process, functional units were

sorted according to performance. Low noise/high gain types were labeled CK718 and supplied to hearing aid manufacturers. The CK722 label was reserved for the lowest performing units, which still meeting advertised specs. This device was soon to become a popular device, one that was destined for the general purpose "hobbyist" market.

The CK722 holds a unique place in the history of the transistor. It was the first low cost junction transistor available to the general public. It was an instant success. Almost overnight there were articles that seemed to explode in the electronic and hobby media. The Amateur Radio community was a part of this magnetic appeal for construction ideas.

The common thread of these stories told how to use the CK722 to build all types of devices such as radios, photoelectric alarms, hearing aids, oscillators, and electronic voltmeters. This media attention bore fruit. The hungry, home scientists and experimenters enthusiastically responded to the small, but mighty CK722. Experimenters, Amateur Radio operators, engineers, and others in this emerging technology became the purchasers of the new transistor.

In time, there grew a sentimental mood about for this break-through invention. Ask anyone in the generation of new transistor users and most have one or more stories about their first project using the CK722. This collection of stories spans more than four decades. Many of these maturing experimenters will share stories how they babysat, mowed lawns and did odd jobs to earn the money to purchase their first CK722.

There was joke told by many people included in the early transistor generation that quality control helped create new species of transistors. The story tells of the process when batches of transistors were checked, there would be collections of close to identical devices. The rumors told that this segregation resulted in different classes of devices.

These stories, while not totally correct from a technical standpoint were somewhat close to the truth. This near truth came from the collection of early transistors, the CK718, CK721 and CK722. This early family of solid-state devices saw the CK718 meeting strict hearing aid requirements, the CK721 providing moderate gain and noise factor, and the designation of CK722 was the

model number assigned to all the remaining functional units which met the minimum acceptable gain requirements. Those specifications were a minimum power gain of 30db and noise factor of 22db.

The simplicity of the early transistor projects contributed to their popularity. The only tools required were an inexpensive, low heat soldering iron, a pair of tweezers as an elementary heat sink during construction and a pair of lead trimming diagonal cutters.

Raytheon did not have a “forever” exclusive. Soon other manufactures began developing their own series of early transistors. These pioneers also helped in establishing a more uniform identification nomenclature. Examples of the newer identifiers were devices like the 2N2219 and the 2N2219A.

In the past six decades, the explosive growth of the transistor and its relative, the chip sees billions and billions of transistors are quietly at work in almost every device used in our daily recreation, work, and other applications. Imagine the loss we would feel if there were no computers, radios, telephones, cell phones, printers, copiers, CD players, and an exhaustive list of everyday items.

Today, the most complex silicon chips may incorporate more than 1 billion transistors each. Multiply each of these chips by the annual output and the result of contributing transistors soon becomes a number that cannot be conceived.

Who was responsible for this electronic device whose birthday quietly went unnoticed? The transistor, a little electronic switch capable of amplifying electric current, was invented by John Bardeen, Walter Brattain and William Shockley. This development took place on Dec. 16, 1947 at Bell Labs in New Jersey. Bell Labs was the research arm of AT&T.

Using nothing more fancy than a breadboard type of jury-rigging some simple components, the first transistor was created. They used a paper clip, some germanium and gold foil. This combination of almost giant items was soon to become the small, popular transistor – a device that they discovered boosted electrical current a hundredfold. This trio of Bardeen, Brattain and Shockley were acknowledged

for this discovery when they won the Nobel Prize for physics in 1956.

If one were to take an historic glance at another device, one that in some ways paralleled the wonders of the transistor, they would have to look back to 1906. It was that discovery that many observers feel provided the start of the modern electronic era.

That introduction to that era’s landmark event has been credited to Lee de Forest when he discovered that an electrified mesh placed between two electrodes in a vacuum could amplify electrical current and act as a switch. The resulting vacuum tubes, meaningfully called a valve by our language cousins in the UK, soon became the workhorse of electronics. The deForest invention indeed produced a revolution. By the end of World War I, Western Electric, the then manufacturing arm of AT&T, was manufacturing 1 million vacuum tubes a year.

It was the well-researched vacuum tube that aided in the technology that helped in the development and construction of the first digital computer, the ENIAC. As was stated earlier, this breakthrough device was built between 1944 and 1946 at the University of Pennsylvania. ENIAC has properly been described as a colossal machine. It was approximately 100 feet long, 10 feet high and 3 feet deep

The ENIAC was constructed with more than 100,000 parts. This shopping list included 18,000 vacuum tubes.

More than one historical account stated that when ENIAC was turned on, the lights in western Philadelphia dimmed. It was not uncommon for periodic tube failures. This need for ongoing diagnostics and the necessary replacing of tubes became one a part of Achilles heel of this milestone device.

This weak point in the otherwise successful development of the ENIAC was a motivation for Bell Labs researchers. They had foreseen this problem and, in the mid-1940s, created a team to find a replacement for the vacuum tube. It should be noted that many people working with vacuum tubes had a maxim, “When there was a failure in [that generation’s] electronic circuits, the vacuum tube was responsible 85% of time.

The goal of the Bell Labs researchers was to make a solid-state device that would have no vacuum, no filaments and no moving parts. As good researchers, this team bet on semiconductors -- materials that would conduct electricity under certain conditions. These substances included silicon and germanium, materials that are a part of the current, everyday electronic vocabulary.

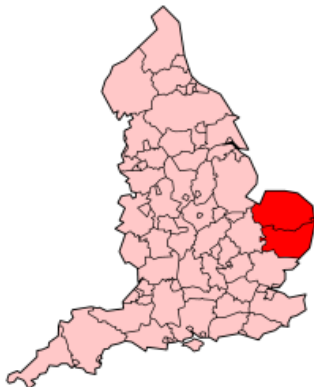
It was 60 years ago that success was achieved. Happy birthday our little friend!

Humpty Dumpty and the Gang

Every child enjoyed learning Nursery Rhymes. Some of them may have lasted into adult lives and then became shared with children and grandchildren. These tales have been passed down from generation to generation, but what is known about their origins.

**Humpty Dumpty sat on a wall.
Humpty Dumpty had a great fall.
All the king's horses and all the king's men
Couldn't put Humpty together again!**

This history of this Nursery Rhyme is supplied by the East Anglia Tourist Board, East Anglia is located on a peninsula of eastern England. As and FYI, East Anglia was named after one of the ancient Anglo-Saxon kingdoms and it was the named for the homeland of the Angles. Their origin was located in northern Germany.



The East Anglia Section of England Is Shown in Red

Like so many nursery rhymes, the actual foundation of the tale is far from an enterning, but a telling of a historical event. The reference to

Humpty Dumpty was not that of the egg pictured in modern illustrations. Instead, Humpty Dumpty was a powerful cannon that was used during the English Civil War (1642-49).

This cannon was mounted on top of the St. Mary's at the Wall Church in Colchester, England, and it was a part of the defense of the against a siege upon the city in the summer of 1648. [As a historical note: although Colchester was a Parliamentarian stronghold, it was captured by the Royalists who held it for 11 weeks.]

The enemy hit the church tower and the top of the tower was blown off, sending "Humpty" tumbling to the ground. Naturally the King's men* tried to mend him but in vain. It is assumed the "men" would have been infantry and the "horses" were the cavalry troops.

What was a part of a historical event has been transformed into a tale for children.

**Little Jack Horner
Sat in a corner
Eating a Christmas Pie
He put in his thumb
And pulled out a plum
And said
"Oh, what a good boy am I!"**

According to legend, Little Jack Horner was actually Thomas Horner, steward to the Abbot of Glastonbury during the reign of England's King Henry VIII. According to rumors of the time, the inquisitive king would soon be reaching for some Glastonbury holdings.

The nervous Abbot, hoping to appease the royal appetite, sent a special gift to the king. This gift was a pie that contained twelve deeds to manor houses. This pie was transported to London by a not-so-loyal courier by the name of Thomas Horner. On his way to London, Horner stuck his thumb into the pie and extracted the deed for Mells Manor, a plum piece of real estate. The descendants of courier Horner live in Mells Manor to this day.

In a tie to children, "The Great American Baby Almanac" has provided this history

**There was a little girl
Who had a little curl
Right in the middle of her forehead;
And when she was good,**

**She was very, very good
But when she was bad she was horrid.**

Continuing in an American trend, "The Great American Baby Almanac" becomes a source for information of a very familiar poem. While the poem is familiar, the identity of its author may be a surprise. This poem is the work of American poet Henry Wadsworth Longfellow.

He composed it one day when his daughter Edith refused to submit her hair to a curling iron. For many years afterward, Longfellow, better known as the author of such works as *Evangeline* and "Paul Revere's Ride," denied having written the verse.

When pressed by his friends, he confessed to being the author, albeit somewhat crossly; "When I recall my juvenile poems and prose sketches, I wish that they were forgotten entirely. They however cling to one's skirt with a terrible grasp."

This answer is typical of Longfellow's style.

The Old Poem Still Works

While not a native of neighboring Ohio, William Holmes McGuffey was born in 1800 near Claysville, Pennsylvania. It was in Ohio, during that state's infancy that McGuffey achieved his fame. His 19th century books are one of the two of the best known school books in the history of American education. Joining the McGuffey works was the 18th century New England Primer.

Estimates state that at least 120 million copies of the McGuffey's Readers were sold between 1836 and 1960. This record places its sales in a category shared by the Bible and the Webster's Dictionary.

Claysville is in an area of Washington County (western Pennsylvania) that has not forgotten its "favorite son." The school district embracing Claysville is called the McGuffey School District.

McGuffey had his own formula for his own education. He became a roving teacher at the age of 14. He was gifted with a phenomenal memory. This was demonstrated by his memorizing of entire books of the Bible.

His first classroom experience began with 48 students in a one-room school in Calcutta, Ohio. This small community is located on the eastern Ohio

border where the state's boundary begins to be formed by the Ohio River.

The McGuffey education formula saw his formal education begin AFTER he began teaching. His classical education began in western Pennsylvania and his credentials were earned at Washington College, now known as Washington and Jefferson, in Washington, Pennsylvania.

Upon his graduation, McGuffey was appointed as a Professor of Languages at Miami University in Oxford, Ohio. While McGuffey was teaching at Oxford, he established a reputation as a lecturer on moral and biblical subjects.

In 1835 McGuffey was asked by a Cincinnati publishing firm to create a series of four graded readers for primary level students. In addition to his growing reputation, a recommendation by a longtime friend Harriet Beecher Stowe. The collection of the contracted readers incorporated stories, essays, poems, and speeches.

One of these poems has an application for Amateur Radio contesters. A segment of this poem has been quoted often. The *eDipole* shares the entire poem:

1. "Tis a lesson you should heed,
Try, try again;
If at first you don't succeed,
Try, try again;
Then, your courage should appear,
For if you will persevere,
You will conquer, never fear,
Try, try again.
2. Once or twice though you should fail,
Try, try again,
If you would at last prevail,
Try, try again.
If we strive, 'tis no disgrace
Though we do not win the race;
What should you do in that case?
Try, try again.
3. If you find your case is hard,
Try try again.

While not written for Amateur Radio operators, this is good advice when trying to pull out a long-sought station that is buried in a pileup. The

McGuffey's Reader lesson suggests, "Never quit, but instead, *Try, try again.*"

Affiliated Club News

The American Radio Relay League supplies the following information for the benefit of affiliated ARRL Clubs. The Marple Newtown Amateur Radio Club is proud to be an ARRL Affiliated Club.

ARRL Club Newsletter

December 14, 2007

Remember When? Remember Now.

By: Norm Fusaro, W3IZ

At one time or another we have all drifted back to happier, simpler times to help ease the stresses of life. While many professionals might agree that an occasional trip down memory lane is healthy and often therapeutic, few would recommend that we live in the past.

Our human brains are wired to remember things that are comforting and suppress unpleasant memories. That is why we tend to use phrases like "the good old days" even if the time in reference was peppered with hardship.

Depending on how you look at it, ham radio like the automobile, has either hardly changed over the last 100 years or has advanced dramatically because of technological progress. Today's automobiles are loaded with safety features and convenience gimmicks yet the basic car is still a wheeled vehicle that burns fossil fuel in an internal combustion engine in order to transport passengers from point A to point B.

In comparison radio operators still modulate and demodulate electromagnetic signals to communicate with stations near and far. Computer processing and micro electronics play a big part in how these illustrations have evolved, but have things really changed?

Amateur Radio is just one of many sectors where we see state-of-the-art technology blended with traditional concepts. A trip to any marina will find modern sailboats made from composite materials and loaded with the latest navigational electronic devices but the basic component, harnessing energy from the wind to propel a vessel, has not changed in the thousands of years since its discovery.

I am sure that you can think of your own examples where the application of modern technology has reshaped an old-fashioned idea, but the point is that while it is nice to remember and replicate things from the past, we live in the present.

Many people have an image of Amateur Radio as a nostalgic remembrance of another time when radio seemed to be magical when in fact it has always been cutting edge and futuristic. This portrayal of ham radio is reinforced by radio amateurs themselves through their reluctance to accept change and their insistence on preserving old technologies.

The propensity to look back is not as prevalent in other activities as it is in Amateur Radio. When I go fishing I don't run into any anglers sporting woven rattan creels and bamboo fishing poles yet there is not a day that goes by when I am not reminded that "real radios glow in the dark" or some other witty reference to bygone times. How far back do we want to go to be authentic before it becomes absurd? "If it ain't spark it ain't radio?"

Years ago companies like Heath provided a way for many to get involved with Amateur Radio through kit building. The radio kit was less expensive than factory produced gear and, depending on the skill level of the builder, the finished products performed pretty well. Maintenance and repairs were easily performed because the builder had an intimate knowledge of the circuitry.

Today, mass production and robotic manufacturing processes help drive down

the cost of electronic equipment and in many situations make replacing a device more cost effective than repairing it. A current manufacturer of Amateur Radio that started life as a kit company found that they could offer a better product at a lower cost by providing assembled circuit boards populated with surface mount components.

Assembly is a matter of plugging-in boards and configuring systems similar to how a computer is built. Digital electronics has allowed the experimenter to trade-in the soldering iron for computer software codes and the term home-brewing, once a common ham radio activity, has now given way to a more descriptive phrase -- soft-brewing.

Developers like Joe Taylor, K1JT have completely re-written the rules when it comes to EME, meteor scatter and other exotic digital modes once reserved for the eccentric radio amateur. Today many hams employ WSJT software with modest stations to ricochet information to one another via the lunar surface.

Other software experimenters are developing new modes and tools for the radio amateur to exploit the power of digital processing. Commercial interests are able to offer feature packed equipment that is relatively less expensive than gear offered in the past, and hams are finding applications for this stuff that could only be imagined a short time ago.

Amateur radio has many examples of innovation and creativity. Sometimes an idea can be ahead of its time. Take for instance an article that appeared in the July 1934 issue of QST that suggested "International Round Table Nets and Globe Circling Relays" using an elaborate network of tape machines and relays to remotely control HF stations as far as 200 miles away so that the ARRL broadcast could be made simultaneously in all 48 United States. We are able to do that exact thing today using Voice over Internet Protocol (VOIP) but there are some who will argue that this is not "real" radio. Phooey!

ARRL founder Hiram Percy Maxim, W1AW was a forward thinker who moved in the same circles as Edison, Ford and Firestone, people who changed our world. Maxim was innovative and has many inventions to his credit. When the spark gap transmitter used at Maxim's station 1AW, could no longer generate radio signals it was replaced by a modern transmitter that used vacuum tubes.

When asked if there were plans to repair the spark gap transmitter Maxim acknowledged the position of employing modern technology when he remarked "The voice of the spark set at 1AW will not be heard again." (QST, January 1923, pg 14)

Maxim was always looking beyond the horizon. Displayed in a showcase at ARRL headquarters is the Elser-Mathis cup. This trophy was inspired by Col Fred Johnson Elser, W6FB and SCM Lt Cmdr Stanley Mathes, K1CY after Elser learned of Maxim's fascination with the planet Mars.

The unique wooden cup is waiting to be awarded to any radio amateur for the first Amateur Radio Contact between Earth and Mars. I am certain that "tongue may have been firmly planted in cheek" when this award was conceived but I believe that this trophy may be awarded to some radio amateur in my lifetime.

I would like to think that if Mr. Maxim were here today he would be very happy to see that Amateur Radio and the ARRL have stood the test of time and continue to attract newcomers to the hobby nearly 100 years since the League was founded. However I would not be surprised if The Old Man shook his head in bewilderment to find that we have spent much time and energy worshipping the past instead of looking ahead to the future.

It may be comforting to stroll down memory lane and fire up the vintage radio for the evening. The warm glow of the tubes and the refreshing aroma of heat

radiating from the chassis will create soothing reflections and transport you back to a time when there was no internet, e-mail or cell phones. As you blow smoke rings from your briarwood pipe and replicate the authenticity of what you refer to as "real radio," try to remember that the icons of technology that you pay homage to were once state-of-the-art, modern appliances that filled the dreams of many. As much as Amateur Radio owes to its past, adoration of vintage radio should not take away from Amateur Radio's future.

New ARRL Award Products Available

The ARRL now offers custom awards for clubs, groups and individuals for recognition and achievement, offering a wide range of styles and price levels. Each award is customized with your text and the ARRL logo.

Products offered include a tan leather rectangular key fob with a call sign on one side and the ARRL diamond on the other; a rosewood pen and pencil set with personalization available on the pen and pencil, as well as the presentation box; an 8x10 inch wood plaque with blue plate engraved with up to 14 lines of gold text; a swiveling wood desk clock that holds a photo or an insert --personalize this with up to 25 characters on two lines, and a beautiful crystal 3-inch etched globe on a crystal base, presented in a velvet-lined gift box.

Do you have that one ham in your group who comes out every Field Day, rain or shine, who stays from beginning to end, helping out in anyway possible? Acknowledge their involvement with a beautiful gift that shows how much you value their service? What about the ham in your club that has been a member for 25 years and has yet to miss a meeting? Show them how much you appreciate their contribution with a small personalized token. Do you have an Elmer you would like to thank with more than words? A personalized gift with their name and call

sign on it would remind them of you every time they used it.

Each item features the ARRL diamond logo. Award orders will be processed and delivered within 20 working days. View the entire award product line, as well as ARRL clothing items, at the Barker Specialties Web site <<http://www.barkerstores.com/arrl>>.

ARRL Insurance Benefit

Bill Morine, N2COP

ARRL Public Relations Committee Member

Several years ago, my automobile insurance carrier mailed me a new policy. I was about to file it away with my other papers when my eye caught the title of a section of the policy that read, "CB Radio/Telephone Exclusion". I read the language and called my carrier. The claims department spokesperson confirmed that my amateur radio equipment was excluded from the basic coverage however for an additional \$90 per year I could buy a rider that would cover my ham radio equipment.

This was a nice offer but my equipment would still be subject to my policy's \$500 deductible. Another example of an inadequate insurance policy is the case of my buddy whose ham shack suffered a lightning strike. He had a \$1,000 deductible on his policy and to make matters worse, his claims adjuster had no knowledge about amateur radio. My friend has been off the air for several months as he and the adjuster argue over the process of repairing his HF transceiver.

That's when I realized another benefit of ARRL membership. - ARRL's "All-Risk" Ham Radio Equipment Insurance Plan. This is a comprehensive program that protects Amateur Radio equipment in your home car from all risk form, which includes fire, lightning, theft, collision, and other accidents and natural hazards. Coverage can also be provided for computer software and

hardware as well as station accessories such as antennas, rotators and towers.

Coverage is affordable and in most cases substantially lower in price than adding a rider to your current homeowner's or automobile policy. As with all insurance products, you should read the provisions of coverage carefully by going to <http://www.arrl.org/FandES/field/regulation/s/insurance/equipment.html>

If you're like me and you shop around for insurance then you will find that this is a good deal. What's more is the underwriter even has an agent dedicated just to ham radio claims so it's nice to know that if you should ever have to file a claim you will be working with someone who is familiar Amateur Radio.

Once Affiliated, Always Affiliated

Once your club is affiliated, it remains affiliated however a club can be listed as active or inactive. To stay actively affiliated, you must complete and submit an Annual Report at least once a year. Your club's status will be changed to inactive should 2 years go by without our receiving an Annual Report. Your club can return to active status at any time by simply completing and submitting an Annual Report.

Your club can update its record anytime important information changes. Information such as club officers, meeting time and place, etc. should be kept current so that prospective members can get in touch with you.

Updating your club record is as simple as following the update link on the ARRL Affiliated Club web page: www.arrl.org/club

If you need to update your Special Service Club record please visit the SSC page at: <http://www.arrl.org/FandES/field/club/forms/fsd7/index.html>

You may direct any questions about clubs to: clubs@arrl.org

ARRL Affiliation Milestones for December 2007

10 Year		
W2		
SNJ	Delaware Valley Ragchew Club	N2HQX
W3		
EPA	Camp Watonka Amateur Radio Club	KB3BUM
W4		
VA	Franklin County Amateur Radio Club	W4FCR
KY	Big Sandy Amateur Radio Club	K4PGA
W0		
MN	Stillwater Amateur Radio Association	W0JH
NE	Strategic Air Command Memorial Amateur Radio Club	K0AIR
75 Year		
W2		
SNJ	Manchester Area FM Group	W2SV
W3		
WPA	Triple 'A' Amateur Radio Association, Inc.	N3TN
WPA	Beaver Valley Amateur Radio Association	W3SGJ
W0		
IA	Des Moines Radio Amateur Association	W0AK

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The ARRL CLUB NEWS is an e-mail digest of news and information of interest to active members of ARRL Affiliated Clubs.

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We'll see you at the meeting on...

Thursday, January 3rd, 2008

7:00 PM

at The Gauntlet Center

MNARC club members are invited to bring their friends to this program, as it has applications in every-day life and more!