



W8LAP/r

146.620 - 100Hz
442.750 + 123Hz QRP

www.w8lap.com



Waveguide

Lapeer County Amateur Radio Association



May

Published Monthly by the Lapeer County Amateur Radio Association

2010

*The next regular meeting will be held on
Tuesday, May 11 —7:30 p.m.
at the Lapeer County Central Dispatch Center (911)
2332 W. Genesee Street in the basement.*

Program for the April meeting:

1. **How to pour coffee and greet people at Operation CARE.** Please go to the club's website (<http://www.w8lap.com>) and sign up for the Operation CARE on Memorial Day weekend – There are still available slots on the calendar!
2. **Field Day is coming in June – The last full weekend – June 26 & 27.**

The Prez Sez:

Once again I see from the calendar that May is another busy month for LCARA. Most important to the club is Operation CARE coming up during Memorial Day weekend of course. Please sign up early for your time slot and support the effort.

On May 22nd the club will have a table at the Lapeer LDS Church's emergency preparedness fair. The fair is only from 1-4 pm but I would appreciate some company. You don't have to do anything, just show up and talk about your favorite hobby to anyone with questions. Also, on May 26th at 12 pm I will be giving a talk on amateur radio to a group at the Lapeer Presbyterian church. Again, you won't have to do anything but show up and smile at the new recruits.

The Treas Sez:

Hello to everyone that has the pleasure of receiving this great news letter. Thank you Hank. As I look out the window and see green and sunshine, I am reminded that we are about to start our busy time of the year. Operation Care is a public service provided by our Lapeer County Amateur Radio Association in conjunction with the State of Michigan, the Michigan State Police and other private

I have been checking into the Caro net on Monday nights before our net when time allows. Anyway, a 440 repeater in Mayville was mentioned and I was able to work it with no problem. Maybe you guys in the north part of the county already knew about it. But anyway, it seems to be linked to the 440 repeater in Frankenmuth. Maybe somebody in the club knows the full story.

The March of Dimes walk last month went well with special thanks to KD8HDZ, KB8YGA, K8DD, N8LJ, KC1BUD, and KD8GAV. Thanks for your help, Darlene was very grateful.

Hope to see you at the club meeting on May 11th.

Kevin Boxey
KB8TAR

organizations, on holiday weekends.

We endeavor to help weary travelers at the Five Lakes Rest Area by providing them with a free cup of coffee or a cup of orange drink, a chance to unwind from their travels and give them pleasant conversation to help them rest up a bit. In return, many of these appreciative travelers leave a donation.

These donation over the course of the summer amount to the bulk of our operating funds. If it weren't for the great volunteers who work at Operation Care, I hate to think what our dues would have to be to cover all our expenses.

So please sign up to spend some time helping our your club at as many Operation Care outings as you possibly can. If everyone spent one shift helping out, no

The Trustee Sez:

Greetings to one and all. Need I say that the repeaters are working fine. Lucky me! How many of you have tried to break them just so I could have something to do?

I did use the new power meter to check out the output and reflected power of both repeaters. The VHF is putting out 45 watts and reflecting 3 watts. 3 watts reflected amount to a SWR of 1.3 to 1. That SWR is the same as my antenna analyzer predicted. That was nice to see.

The UHF on the other hand showed me some disappointing news. It is showing only 5 watts output and no reflected. That means there is something wrong with the output amplifier. The day I was out there to check, I

The Secy Sez:

The meeting was called to order at 7:33 with the Pledge of Allegiance to the Flag and introduction of members and guest.

No hospital report. Franklin G. Warsalla Sr., k8mfk, passed away. He was the gentleman who gave us the Bridge Reports for Operation Care. A sympathy card was sent to the family.

A lady named Sue not sure of last name went in for her Ham Ticket and came out a General.

Minutes was read by Flo, kc8cab. Accepted by Tom, kd8eby and seconded by Dan, kc1bud.

Treasurers report was given by Bill, kd8vp. Accepted by Dan, kc1bud and seconded by Tom, kd8eoa.

Trustees report was given by Bill, kd8vp. Have not done anything this month except reset the P L tone.

Michigan Search and Rescue and Canine is going to be at Mott College in Lapeer on June 10, from 1 to 3 p.m.

EC report was given by Tom, kd8eby. Crim Race is back on for August 28th. April Spotter Activation was at 1pm on

The EC Sez:

First, thanks to Kevin Boxey for stepping up to IC at the "Babies Walk" in Rowden Park while I was in the hospital. I understand it was a big success again this year. Next we need VOLUNTEERS! The County SET is June 11th.

Anyone who can help out please contact me asap as i need to let Mary know how many "players" we're going to have. And last, Operation Care is the last weekend of May. Please check the schedule on www.w8lap.com and sign up to help your club. We want a minimum of two bodies per shift. Until next month everyone stay healthy and safe.

one would have to give up much of their holiday to make sure it is covered.

Please help us out.

That said, there were no out of the ordinary expenditures this month so we will be fine until we start to replenish our funds.

Thank you very much.

73 Bill Miller KD8VP

didn't have the time to look any deeper. But it is still working, and you can use it until I have to take it off line to look at it. I have high hopes that it is only a bad fuse, otherwise I will have to take it out for repairs.

As you can see the new power meter we bought has been valuable already. Without it no one would have known we had a problem.

The next time out I will have to mow the grass around the shack, as it is getting long already. Thus will begin my regular duties of keeping up the repeaters.

Until next time, use the day lights out of them.

Thank you and 73

Bill Miller KD8VP

April 14th. The hospital radio is waiting as they are working on the room where it will be. We have everything for packet radio.

Communication AEC report was givrn by Joe, kd8cil. Checking all equipment to make sure it is all working. The County Command Vehicle will be at Dryden Fire House on May 11 at 3 pm. You are welcome to go to see it. A macro on the repeater is so Tom, kd8eby can use it for an emergency. Bill, kd8vp, may put a long tone zero for emergencies.

Vice President Chris, kc8twl, had no report.

Break was from 8:05 to 8:10.

Hank, k8dd and Lee, n8lj gave a report on thier February trip to Nicaragua. ARRL DX Contest for 2010. Their total contacts was 13,300. They came in 4th. A very intresting presentation.

50/50 was won by Brian, n8ftt.

Meeting closed at 9:13.

Second, it's time again for me to compile my statistics for state and federal compliance on training. I know all Races card holders have a minimum of IS 22, 100,200,700 and 800. Anyone (not just Races) who has any training above and beyond please let me know so i can add it to my list.

Thanks and 73,TOM

KD8EBY@arrl.net

E.C. Lapeer County, Mi.

ARES/RACES/Skywarn

NAEMT(P) Member

From Lapeer County EMD:

With all the tornado activity that has been happening around the country, here is a good tutorial and reminder from the SkyWarn training.

1. What is a tornado?

It is a column of violently rotating winds extending down from a thunderstorm cloud and touching the surface of the earth.

2. What is the difference between a tornado and a funnel cloud?

A funnel cloud is also a column of violently rotating winds extending down from a thunderstorm; however, it does not touch the earth.

3. How many tornadoes usually occur in Michigan every year?

An average of 16 tornadoes occurs in Michigan each year. Since 1950, 239 persons have been killed due to tornadoes. During this same time, Michigan has experienced 845 tornadoes.

4. When do tornadoes generally occur?

Most tornadoes occur during the months of June, July and August in the late afternoon and evening hours. However, tornadoes can occur anytime of the day or night in almost any month during the year.

5. How fast do tornadoes travel?

Tornadoes generally travel from the southwest and at an average speed of 30 miles per hour. However, some tornadoes have very erratic paths, with speeds approaching 70 mph.

6. How far do tornadoes travel once they touch the ground?

The average Michigan tornado is on the ground for less than 10 minutes and travels a distance of about 5 miles. However, they do not always follow the norm, and have been known to stay on the ground

for more than an hour and travel more than 100 miles.

7. What is a tornado watch?

A tornado/severe thunderstorm watch is issued whenever conditions exist for severe weather to develop. Watches are usually for large areas about two-thirds the size of lower Michigan and are usually two-to-six hours long. Watches give you time to plan and prepare.

8. What is a tornado warning?

The local Weather Service (NWS) office issues a tornado warning whenever a tornado has been sighted or NWS Doppler Radar indicates a thunderstorm capable of producing a tornado. A severe thunderstorm warning is issued whenever a severe thunderstorm is observed or NWS Doppler Radar indicates a thunderstorm capable of producing damaging winds or large hail. Warnings are for smaller areas, such as counties, and are usually 30 minutes to one hour in length. You must act immediately when you first hear the warning. If severe weather is reported near you, seek shelter immediately. If not, keep a constant lookout for severe weather and stay near a shelter.

9. How do I find out about a warning if my electricity is already out?

NOAA Weather Radio with battery back-up capability is your best source to receive the warning. In some areas, civil emergency sirens may be your first official warning. In addition, if your television or radio has battery back-up capability, you may receive National Weather Service warnings from local media.

From the Mailbag:

From "Weaver's Words" the newsletter from the Great Lakes ARRL Director, Jim Weaver, K8JE +++ Ontario Cell Phone Law +++

Marsha Fleming, N8FE and Milt Dzodin, N8AYD appear to have dug deeply enough to learn the skinny on the new Ontario distracted driving law as it relates to amateurs.

The question had been if the new law applied equally to US hams visiting Ontario and Ontario amateurs alike. The concern was that the grace period for applying the law would not apply to visiting amateurs. The answer Marsha reports is that US hams and Ontario hams both are covered by the limited stay in enforcement. The

section of the law that outlines the grace period is:

"13. (1) Until January 1, 2013, drivers who hold a valid radio operator certificate issued under the Radiocommunication Act (Canada) may drive a motor vehicle on a highway while holding or using a two-way radio.

"(2) This section is revoked on January 1, 2013."

Coming Events...

May 14-16- Hamvention(r), Dayton, OH

June 6: Chelsea Swap & Shop, Chelsea, MI

June 19- Milford Hamfest, Milford, OH

June 19- Midland Hamfest, Midland, MI

June 20- Monroe Hamfest, Monroe, MI

August 7: UP Hamfest, Escanaba, MI

September 12: Findlay Hamfest, Findlay, OH

September 19: Adrian ARC Hamfest, Adrian, MI

October 17: Kalamazoo Hamfest, Kalamazoo, MI

Remember --- DX is!

Volunteer Exam Session

The next ARRL Volunteer Exam (VE) session will be **May 8, 2010** at 10:00 a.m. in the second floor meeting room at the Port Huron Branch of the St. Clair County Library, 210 McMorran Blvd, Port Huron, MI.

Pre-registration NOT NECESSARY!

Bring picture ID, the original and a copy of your present license and the original of any Certificate of Successful Completion (CSC) you may hold. The current fee is \$15.00. For further information call Martin Smith, KD8IKN, at 385-5584

Remaining dates for 2010: June 12; July 10; August 14; September 11, October 9; November 13; December 11

Martin, KD8IKN

pioneer-2@att.net

810-385-5584

More From the Mailbag:

LCARA is now on Facebook! Logon to your Facebook account and search on "Lapeer County Amateur Radio Association" and become a fan! This is an excellent way to promote the club.

Lapeer County Amateur Radio Association

P.O. Box 12
Hadley, MI 48440-0012

Officers

President, Kevin Boxey KC8TAR 810-793-4986 Vice-Pres., Chris Azelton, KC8TWL..810-245-0073
Secretary, Flo Haack KC8CAB 810-793-2606 Treasurer, Bill Miller, KD8VP.....810-797-5329

Committees & Appointees.

Club Founder.....Hollis Hayes, W8ACD Club Call TrusteeW8LAP.....Bill Miller, KD8VP
Club Historian.....Charlie Whipp, KC8JBK VE Coordinator.....
Skywarn Coordinator.....Pete Headrick KB8RSG Swap & Shop Chairperson.....Bill Miller, KD8VP
Field Day Chairman.....Bill Miller, KD8VP Meeting Refreshments.....Bill Miller, KD8VP
Two Meter Net Mgr.....Charlie Whipp, KC8JBK Newsletter Editor.....Hank Kohl, K8DD
Public Information Officer.....**It could be you!**

ARES Repeater Nets

Monday at 9:00 PM on 146.620-
Mon—Sat at 9:30 PM on 147.300+

Meetings

LCARA meetings are held on the second Tuesday of each month in the Lapeer County Central Dispatch Center (911), 2332 W. Genesee St, Lapeer MI at 7:30 p.m. local time.

Board of Directors' monthly meetings are sometimes held on the first Tuesday of each month at Tim Horton's at 7:30PM (Check on the W8LAP repeaters).

Newsletter

Items for the newsletter may be called to the Editor at 810-721-0708, sent by Mail (Box 88, Attica, MI 48412), or as an ASCII or Word file to k8dd@arrl.net The deadline for submissions is the 20th of each month.

For Sale For Sale For Sale For Sale:

FOR SALE:

Henry 2K HF amplifier, floor model \$800 contact Stan, AC8W (810) 364-6674

For Sale

HW-8 Handbook—covers HW-7, 8 & 9 \$15 (2 left)

COM port boards, ISA, 2 ports \$3.00 ea

From the estate of N8CQA:

30M two transistor transmitter in a Hershey Cocoa can , with schematic \$15

All offers will be listened to!

Contact Hank K8DD at k8dd@k8dd.com or 810-721-0708

N2CQ QRP CALENDAR 2010

CWops Mini-CWT Test (CW) ... QRP Category
May 12, 1100z to 1200z and
May 12, 1900z to 2000z and
May 13, 0300z to 0400z

Rules: <http://www.cwops.org/onair.html>

[North American "Minimal Art Session"]
MAS "Minimal Art Session" (80M CW) *** QRP
Homebrew Only! ***

May 13, 9 PM to 1 AM ** LOCAL TIME **

North American Rules: <http://tinyurl.com/MAS-QRPedia>

Dayton Hamvention (QRP Event - FDIM)

May 14-16

Info: <http://www.hamvention.org/>

HIS MAJESTY THE KING OF SPAIN CONTEST
(CW)

May 15, 1200z to May 16, 1200z

Rules: <http://www.ure.es/contest/431-sm-el-rey-contest-english-version.html>

Feld Hell Club Sprint (Feld Hell) ... QRP Category

May 15, 1600z to 1800z and 2000z to 2200z

Rules: <http://sites.google.com/site/feldhellclub/Home>

RUN FOR THE BACON (CW) *** QRP CONTEST

EDT: May 16, 9 PM to 11 PM

UTC: May 17, 0100z 0300z

Rules: <http://www.fpgrp.com/>

NAQCC Straight Key/Bug Sprint *** QRP CONTEST!

EDT: May 19, 8:30 PM to 10:30 PM

UTC: May 20, 0030z to 0230z

Rules: <http://home.windstream.net/yoel/contests.html>

EU PSK DX Contest ... Low Power (10W) Category

May 22, 1200z to May 23, 1200z

Rules: <http://www.eu.srars.org/>

All America Contest (CW) ... QRP Category

May 22, 1500z to May 23, 2359z

Rules:

http://www.powerline.com.br/cwjf/Regulamento_Inq.pdf

Baltic Contest (CW/SSB) (80 Meters)

May 22, 2100z to May 23, 0200z

Rules:

http://www.lrsf.lt/bcontest/english/rules_html.htm

SKCC Sprint (Straight Key CW) ... QRP Awards

May 26, 0000z to 0200z

Rules: <http://www.skccgroup.com/sprint/sks/>

CQWW WPX Contest (CW) ... QRP Category

May 29, 0000z to May 30, 2359z

Rules: <http://www.cqwpw.com/>

QRP ARCI Hoot Owl Sprint (CW) ... QRP Contest!

May 30, 2000 to 2400 LOCAL TIME

Rules: <http://www.qrparci.org>

Michigan QRP Memorial Day Sprint (CW) ... QRP
Contest!

May 31, 2300z to June 1, 0300z

Rules: <http://www.gsl.net/miqrpclub/contest.html>

Digital Pentathlon (PSK) 50W Max

June 5, 1800z to 2200z

Rules: <http://mixw.net/misc/DigiFest/>

Wake-Up! QRP Sprint (CW) *** QRP Contest ***

June 5, 0600z to 0800z

Rules:

<http://grp.ru/modules/sections/index.php?op=viewarticle&artid=7&page=1>

IARU Region 1 Fieldday (CW) ... QRP Category

June 5, 1500z to June 7, 1459z

Rules: <http://www.sk3bq.se/contest/iarur1fd.htm>

Alabama QSO Party (Ph/CW) ... QRP Category

June 5, 1600z to June 6, 0400z

Rules:

<http://www.alabamagsoparty.org/2010/2010Rules.pdf>

Adventure Radio Spartan Sprint (CW) ... QRP Event!

June 8 , 0100z to 0300z (First Monday 9 PM EDT)

Info: http://adventure-radio.org/wiki/index.php?title=Main_Page

Thanks to SM3CER, WA7BNM, N0AX(ARRL),
VA3JFF & G4GXL (QRPARCI)

N2APB (AmQRP), WB3AAL (EPAQRP) and others
for assistance in compiling this calendar.

The Origins of Morse

Tony Smith G4FAI takes a look at the life of the "father" of telegraph

Samuel F. B. Morse was a painter of ability. He studied art in England and exhibited at the Royal Academy in 1813. Returning home in 1815, he took up portraiture as a profession, and painted many prominent people of his day.

He later studied and painted in France and Italy, returning again to America in 1832, when he was appointed Professor of Painting and Sculpture at the University of the City of New York.

During the voyage home, in 1832, on the packet ship *Sully*, discussions about recent electrical experiments in Paris aroused his interest. He had some knowledge of the subject, having attended lectures and assisted with laboratory experiments back home, and he spent the rest of the journey trying to devise a practical electro-magnetic telegraph system capable of carrying messages rapidly over great distances.

Earliest Code

His 1832 notes, setting out his first ideas, are of great interest, and were eventually reflected in his first successful system, i.e.

- a sending apparatus to transmit signals by the closing and opening of an electric circuit
- a receiving apparatus operated by an electro-magnet to record the signals as dots and spaces on a strip of paper moved by clockwork
- a code translating the dots and spaces into numbers and letters

His first code used figures only, coupled with a dictionary of numbered words. It was very simple, and his notebook spells out a message showing various numbers with their word equivalents underneath:

4030 141
 "... Wednesday 6th August
 322 32
 C u v i e r naturalist died."
 1.6.8.5.4.3.



The numbers and dots under "Cuvier" suggest that Morse intended to spell out unusual words or names letter by letter, and this assumption is strengthened by a reference in his caveat (i.e. specification of what he intended to patent) of 1837, to the dictionary having numbered words, "beginning with the letters of the alphabet".

Other matters took his attention over the next few years until his appointment to a new academic post in 1835. He was now given rooms at the university, where he renewed his experiments with home-made batteries and various primitive instruments.

His first successful receiver (register) was made from a canvas stretching frame, a hand wound electro-magnet, and a hanging lever, with pencil attached, to draw on a moving strip of paper. A dot could be read from the lower point of a V, and a dash from an extended V, shown in Fig. 1.



Fig. 1

Lack of funds, coupled with a need for practical assistance, led to a partnership with a colleague, Professor Leonard Gale; with Alfred Vail, who offered funds, and facilities at his family's ironworks to make proper instruments when required; and with F. O. J. Smith, a Congressman with business and legal experience. Working together the three main partners contributed to the subsequent development of the Morse telegraph and code, although it was finally patented in Morse's name alone.

First Alphabetic Code

All of the early experiments and demonstrations had used Morse's

The collage consists of several overlapping advertisements from the 'Journal of the Telegraph'. At the top left is an ad for 'SOMETHING NEW! THE "SNAPPER KEY."' featuring an illustration of a telegraph key and text: 'A complete set of Telegraph Instruments without a battery, that can be carried in the pocket. It takes the place of a learner's set, where a battery can not be used, can be fastened on the table, and is a perfect Key and Recorder combined. Try one! SENT BY MAIL ON RECEIPT OF PRICE, \$1.00. This price includes postage.' Below this is an ad for 'THE IMPROVED "SNAPPER" SOUNDER. A Compact Pocket Telegraph Instrument, Made in 3 Styles.' with an illustration of a sounder and text: 'Price, \$3.50. CONKLIN'S PRIVATE LINE OR LEARNER'S SET. \$3.75. The set is so simple that it can be learned in a few days. It is the best and most reliable of any set ever made. It is the only one that can be used in any part of the world. It is the only one that can be used in any part of the world. It is the only one that can be used in any part of the world.' At the bottom is an ad for 'EARNER'S OUTFIT OF COUNTERFEITS!!' with an illustration of a telegraph key and text: 'Price, \$3.75. MANUFACTURED ONLY BY E. S. CREELEY & Co., Successors to L. G. TILLOTSON & Co., Mfrs. and Dealers in TELEGRAPH AND TELEPHONE SUPPLIES OF EVERY DESCRIPTION. Nov. 5 & 7 DEY STREET, NEW YORK.'

achieving a transmission speed of 10 w.p.m., double that attained previously.

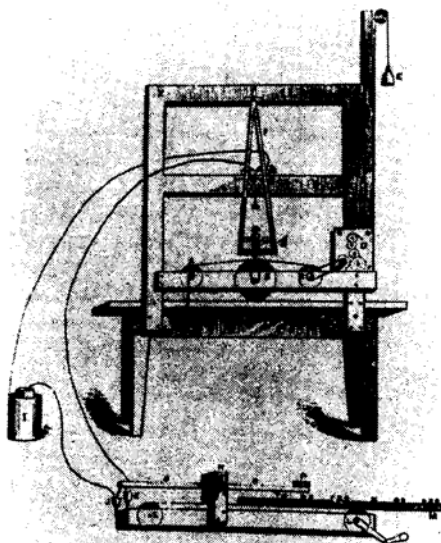
The transmitter (correspondent) had a printer's port-rule with cast type inserted in it as required, each type letter having saw-teeth to activate the circuit as it passed through the machine. This continued in use, until about 1840, when it was replaced by a simple hand key, the forerunner of today's Morse keys, which was later claimed by Vail to be his invention.

In 1843, with funds running out, Morse petitioned Congress for financial assistance, and was allocated \$30000 to evaluate the merits of his system. He planned an underground line, believing that Wheatstone's needle telegraph in England had successfully used buried conductors. After 14km had been laid, it was found that the pipe-encased wire had faulty insulation caused by heat in the manufacturing process. It was then discovered that the English underground wires had also been a failure, and had been replaced by overhead wires on poles.

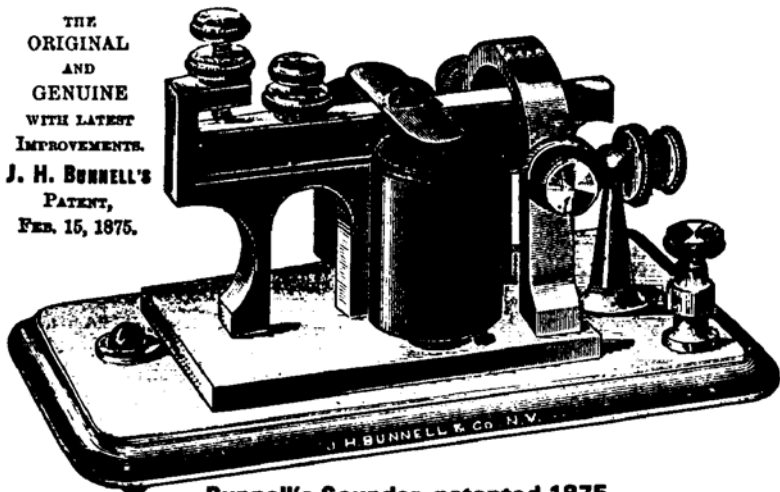
By 1 May 1844, the wires, now overhead, had reached Annapolis Junction, 35km from Washington, in time to pick up news from the railway of the proceedings of the Whig National Convention at Baltimore, and its nominations for president and vice-president.

Sending Errors

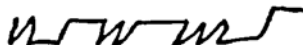
On the day before the convention Morse wrote to Vail from Washington, "Get everything ready in the morning . . . When you learn the name of the candidate see if you cannot give it to me . . . before the (rail) cars leave you . . ." Next day he wrote, "Things went well today. Your last writing was good. You did not correct your error of running your letters together until some time. Better be deliberate . . . I may have some of the Cabinet tomorrow . . ."



THE
ORIGINAL
AND
GENUINE
WITH LATEST
IMPROVEMENTS.
J. H. BUNNELL'S
PATENT,
FEB. 15, 1875.



Bunnell's Sounder, patented 1875



Reading from Morse's first self-recording register. (From Samuel F. B. Morse, his Letters and Journals. By E. L. Morse, 1914)

Finally, the line from Washington to Baltimore was completed, and, on 24 May 1844, the first official demonstration took place before invited observers. Annie Ellsworth, daughter of a friend, chose the first words to be transmitted, and the phrase, "What hath God wrought!", took its place in history.

Now the Democratic convention was gathering in Baltimore, and Morse had a wonderful opportunity to demonstrate the potential of his invention. Senator Silas Wright was nominated as candidate for vice-president. He was not at the convention, but in Washington. Vail telegraphed details to Morse who passed them to the Senator. Wright declined the nomination and Morse sent his reply to an incredulous convention only minutes later. They telegraphed again, received the same reply, and then sent a delegation by train to make sure they had received the message correctly.

"What Hath God Wrought"

Locust Grove, situated one mile south of the City of Poughkeepsie, in Dutchess County, NY, was the home of Samuel F.B. Morse, inventor of the electric telegraph and of the code which bears his name. On May 24, 1844, Morse sent from Baltimore to Washington the now famous message "What hath God wrought!". The estate was purchased by the Young family and was granted status as a national historic site in 1965. On May 18, 1980, the Poughkeepsie Amateur Radio Club celebrated the opening of the Young-Morse National Historic Site to the general public by operating a station K2KN from Locust Grove.



SAMUEL F.B. MORSE DAY
POUGHKEEPSIE AMATEUR
RADIO CLUB
SPECIAL EVENTS STATION
K2KN

DATE	TO	GMT
RF:	BAND	MODE

DUTCHESS COUNTY

American Morse

About this time Morse, probably with Vail's assistance, devised a new code alphabet, which became known as American Morse. The exact date is not known, although Morse's remarks to Vail about his sending on the new line suggest an unfamiliarity with the code which would not have existed had they still been using the 1837 version.

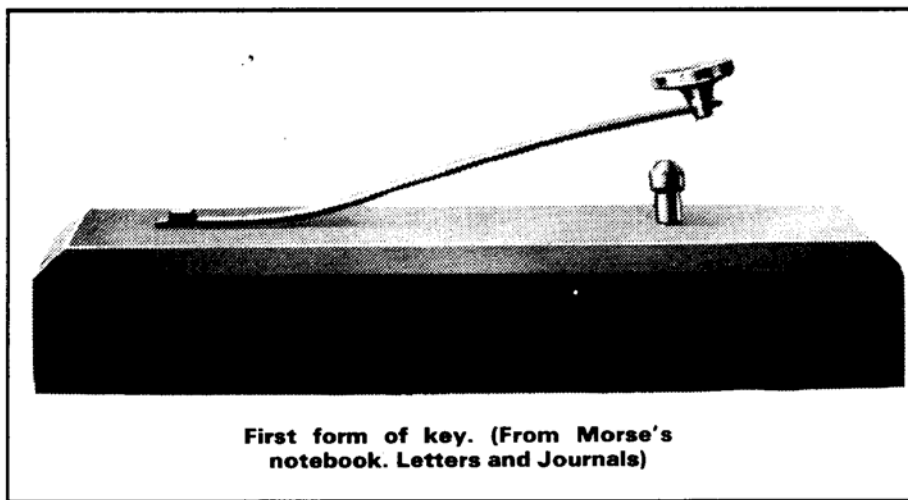
An undated note by Morse lists the different quantities of type found in a printing-office to determine which were the most frequently used letters of the alphabet. He gave every letter a separate symbol, unlike the previous code, which had the same symbol for phonetically similar letters. He weighted each symbol, to determine its length, counting a dot as 1, a space between groups of dots as 1, a dash as 2 and a long dash as 4.

The shortest symbols were allocated to the most commonly used letters, and longer ones to the less frequently used. In this early draft, no letter exceeded a count of 5, and, with one explicable exception, this became the code used throughout North America well into the twentieth century. The exception was the letter J. His notes show it as ···· which counts as 5, fitting in with the pattern of symbols used for other letters. The symbol finally chosen, however, was ····, counting as 6 and contrasting strangely with the logical process used to select the rest of the alphabet.

Sounders

Morse's original "self-recording" instrument was soon replaced with improved versions, involving perforation of the moving tape, or the use of an inked wheel. About 1856 the recorder was replaced by the "sounder", when it was realised that telegraphists had developed an ability to read the messages coming off the instruments by listening to the clicks of the pen-lever.

Sounders were simple electro-magnetic devices which pulled a metal bar



First form of key. (From Morse's notebook. Letters and Journals)

opposite direction, when the key was released. This re-created the sound of the clicks of the sending key, and the technique was to listen to the length of the spaces between the clicks.

Average operators achieved 20-25 w.p.m., exceptional ones, 30-35 w.p.m. and champions, up to 46 w.p.m. By the late 1850's the automatic sender was invented, necessitating the re-introduction of ink recorders and perforators, and speeds of up to 70 w.p.m. were then attained.

International Morse

When the Morse code was first used in Europe, it was not entirely satisfactory, not having symbols for the accented letters used in many European languages. An international conference in Berlin, in 1851, revised the code once again, taking symbols from American Morse and three other systems, to form Continental, or International Morse—the code which remains in use today.

As the years went on, the Morse telegraph became big business around the world, creating ever expanding work for those who manufactured or laid the lines, overland or undersea; those who made the equipment; and those who operated it—the telegraphists.

These were a new breed of men and women having, for the first time, the world at their fingertips. In 1887, the Journal of the Telegraph reported on the seventh annual re-union of the Old Time Telegraphers' Association. Many members looked back to the pioneering days of over 40 years earlier, and there was much discussion as to who had been the first "sound" reader.

A correspondent recalled that, in 1846-7, more and more operators were



"picking up sound reading, but except for conversation, this was positively prohibited on all lines. Some of us did more than talk by sound. We drummed musical rhythm on the key, and set others to guessing what tunes they were".

All Lines Cleared

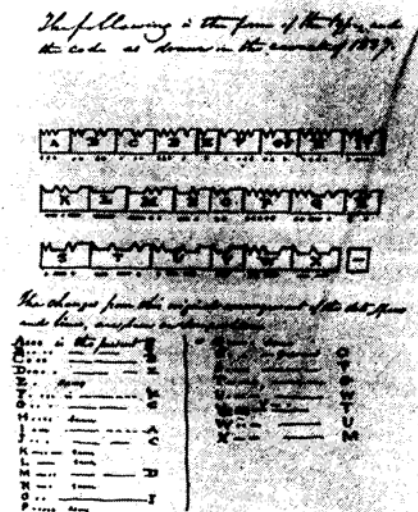
As Morse approached his 80th birthday, the telegraphists determined to honour him in a very special way. On 10 June 1871, two thousand of them converged on Central Park, New York, for the unveiling of his statue, paid for by contributions from telegraph offices throughout the US and Canada. Morse did not attend the ceremony, but that evening was present on the stage of the Academy of Music, in front of a packed audience, when, after speeches paying tribute to his achievements, the telegraph lines to all offices in North America, and many overseas, were cleared.

Using an original instrument from the Washington-Baltimore line, a young lady operator sent what was, in effect, Morse's farewell message to the telegraph fraternity. He was escorted to the table to key his name at the end of the message, becoming overcome with emotion as wild applause rose from the auditorium. Congratulatory messages from home and abroad flooded in, and he concluded the evening with a speech recalling his early struggles, and paying tribute, by name, to all those who had helped him bring his dream to reality.

He had not long to live. He spent the summer months on his estate at Locust Grove, Poughkeepsie, and had a telegraph line wired into his office there from the main route close by. In the winter he lived in New York, and there he died on 2 April 1872.

Father of the Telegraph

Although his fame as "father of the telegraph" was eclipsed by later developments in communications, the



Top—Morse's saw-tooth type and first alphabetical code, 1837. Bottom—Changes made in compiling American Morse. (From Morse's notebook. Letters and Journals, as above)

which Morse could not have foreseen. It is enabling radio amateurs around the world to communicate with each other, whilst knowing little of each other's language, giving such pleasure and satisfaction that it will surely continue in use as long as amateur radio exists.

Once a year the Morse code can still be heard at Locust Grove. In honour of his memory, the Poughkeepsie Amateur Radio Club's special event station, K2KN, celebrates "Morse Day", when its signals are heard around the world. What better tribute can amateur radio give to a man to whom it owes so much? **PW**

	1837 code	American Morse (1844)	International Morse (1851)
A
B
C
D
E	.	.	.
F
G	...	---	---
H
I
J
K	---	---	---
L	---	---
M	---	---	---
N
O	---
P
Q
R
S
T	---	-	-
U	---	...	---
V	-
W	---	---	---
X	---
Y	---
Z	---

L.C.A.R.A. MEMBERSHIP APPLICATION

PLEASE PRINT:

CALL SIGN: _____ NAME: _____

ADDRESS: _____

CITY ,STATE, AND ZIP: _____

PHONE : _____ LICENSE CLASS: _____

SKYWARN NO.: _____ RACES NO: _____

ARES MEMBER YES__ NO__ E-MAIL ADD.: _____

ARE YOU AN A.R.R.L. MEMBER: YES__ NO__

L.C.A.R.A. MEMBERSHIP IS \$12.00 PER YEAR, RENEWABLE EACH YEAR ON **OCTOBER. 1ST.** FAMILY MEMBERSHIP \$20.00. ASSOCIATE MEMBERSHIP \$4.00. IF YOU WISH AN AUTODIAL NUMBER FOR THE REPEATER THERE IS AN ADDITIONAL \$3.00 CHARGE. Financing available.

Lapeer County Amateur Radio Association

P.O. Box 12

Hadley, MI 48440-0012