Number 83 – November/December 2002

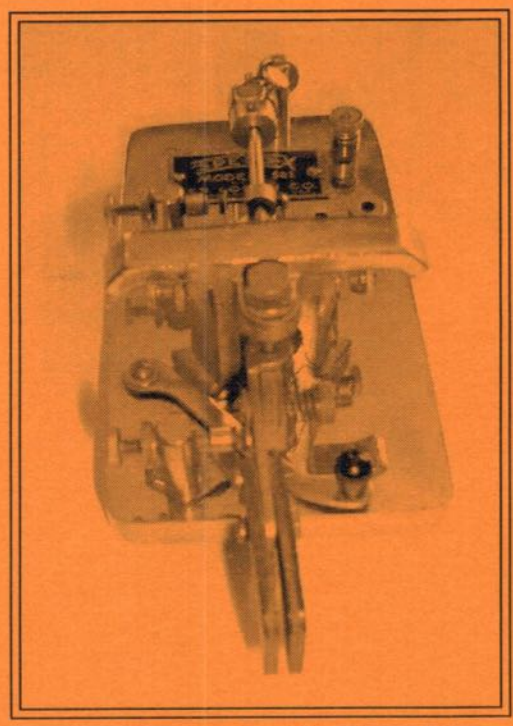
Flying the flag for Morse

Morsum Magnificat

ISSN 0953-6426

£2.75

The Morse Magazine



Les Logan Speedex Bug Key

The International Journal of Morse Telegraphy

Flying the flag for Morse

Morsum Magnificat

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MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. It has been produced four, then six times a year in Britain since 1986, and up to January 1999 was published and edited by Tony Smith, G4FAI and Geoff Arnold, G3GSR. It aims to provide international coverage of all aspects of Morse telegraphy, past present and future. MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material which would otherwise be lost to posterity, providing an invaluable source of interest, reference and record relating to the traditions and practice of Morse.

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e-mail: editor@MorseMag.com MM home page – www.MorseMag.com

 Printed by Hertfordshire Display plc, Ware, Herts

ANNUAL SUBSCRIPTIONS (six issues):

UK £15.00 *Europe* £17.00 *Rest of the World* £20.00 (US $30 approx)

All overseas copies are despatched by Airmail

* Prices in US dollars may vary slightly with currency exchange rates and commission charges

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Make all cheques payable to 'Morsum Magnificat'

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"When does my subscription expire ...?"

This is printed on the top line of the address label.
Also, we shall jog your memory with a renewal reminder included with that final issue.

MM Back Issues

Issues Nos. **34,35** and **38–82** available from the Editorial offices (see top of page). Price including postage £2.75 each to UK; £2.95 to Europe; £3.25 (US $5) Rest of the World by airmail. Deduct 20% if ordering 3 or more.

FRONT COVER

Les Logan T-bar Speedex bug key, Model 501

Photo/Collection: John Francis, G3LWI

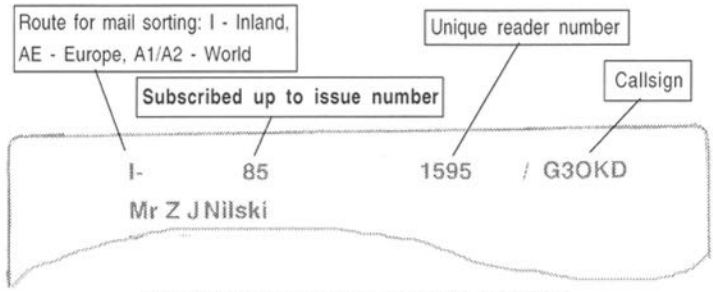
Wishing all MM Readers a Merry Christmas and a Happy New Year

AN APOLOGY – This year I have experienced a number of problems with the production of MM which made the Summer editions very late. I had hoped to catch up by the end of the year but, due to another computer crash, have failed. As a result you will have only received 5 issues in 2002.

This will NOT affect the number of issues that you receive for the subscription fee. Renewals are calculated from the number of issues sent to each subscriber, which means that the date when you might expect to renew moves forward into 2003. The last issue to which you are paid up is printed on the envelope label. The diagram below explains the coding on the head of your address label.

Again, my sincere apologies. Wishing you a very Happy Christmas and 2003.

Zyg Nilski, G3OKD



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Germany Moves to Keep Code Tests

The Deutscher Amateur Radio Club (DARC) in a submission "Morse code and WRC 2003" to the IARU Region 1 Conference being held in San Marino in November, support the retention of Morse code as an amateur licence qualification.

It urges all IARU Region 1 member societies to ask their radio authorities to keep Morse code as an amateur licence test requirement.

DARC argues that in all of the previous discussion in the IARU Region 1 about the obligatory knowledge of Morse code, one major requirement not under dispute is to keep the knowledge level of amateur radio examinations at least at the current standard.

DARC seems to rely on this to mean that Morse code should continue as a licence requirement. "Morse code watch" says time will tell if the DARC submission gains support from other IARU Region 1 radio societies.

A vote of DARC members earlier this year narrowly supported retention of the code requirement.

DARC also states in its submission, that the IARU Administrative Committee's "Guatemala Resolution" on the issue needs to be reviewed.

In a media release issued in October 2001, the IARU AC stated: ... recognising that the Morse code continues to be an effective and efficient mode of communication used by many thousands of radio amateurs, but further recognising that the position of Morse as a qualifying criterion for an HF amateur license is no longer relevant to the healthy future of amateur radio,

Resolves that:

1. member societies are urged to seek, as an interim measure, Morse code testing speeds not exceeding five words per minute;
2. setting aside any previous relevant decisions, IARU policy is to support the removal of Morse code testing as an ITU requirement for an amateur license to operate on frequencies below 30 MHz.

The DARC has also proposed that IARU Region 1 societies should, as a group, discuss the introduction of a Novice licence system before introducing a low-level entry licence to their individual radio authorities.

This proposal could be seen as referring to those nations, including Britain with its Foundation licence, who have or

intend to jump the gun on a uniform CEPT Class 3 (novice) licence.
(Information: GACW and The Wireless Institute of Australia at http://www.wiavic.org.au/mcw/)

CW Fonts for Word

Three type-face fonts, which may be of interest to MM readers, can be downloaded from a web site and used on a PC.

Two include Morse code symbols. They are called "Morse Kode'", "Radios in Motion" and "Crystal Radio Kit". Examples are shown below:

"Morse Kode"

"Radios in Motion"

"Crystal Radio Kit"

They can be obtained from: http://www.themeworld.com/fonts/ and are free. When the files are unzipped, there are read-me-texts, where the maker of the fonts asks for a small donation for his work.
(Information: Monika Pouw-Arnold, PA3FBF.)

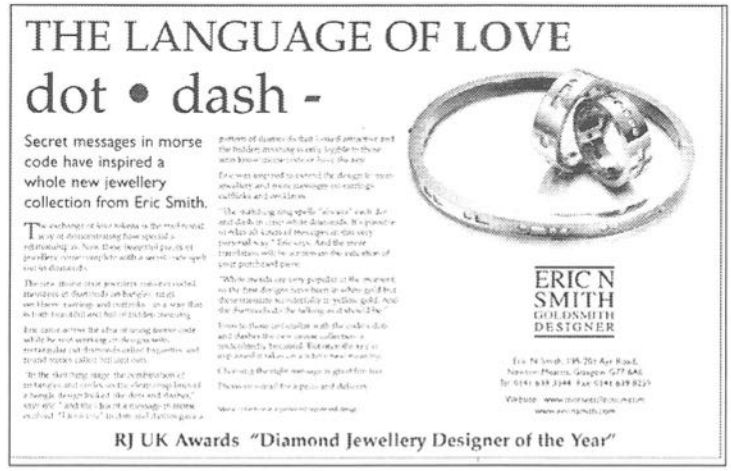
Holland to Implement WRC-2003 Accord Quickly

The *Society for Amateur Radio in The Netherlands* (VERON) held its annual "Dag van de Amateur" hamfest the weekend of October 13th. The *Dutch Post and Telecom Authority* (OPTA) was present and in an information folder said they "...are working to implement any changes agreed at WRC- 2003 as soon as practicable," adding that "It is highly probable that there will be no difference between the 'A' (full privilege) and 'C' (no-code) license holders in the second half of next year."

Apparently the Netherlands does not have to go through a formal rulemaking proceeding in order to make the change and will make it immediately after WRC- 2003 eliminates the mandatory code requirement for HF operation.
(Reported in W5YI Report by Peter Halpin, PE1MHO)

International Pharmacists Ham Group

In March 2002 the I.P.H.G. was constituted to unite ham pharmacists, to promote radio-initiatives, to establish friendship and to help the people who need any possible aid the Group can provide. The Group is apolitical and does not recognize any difference of race and religion among its members.



Dot-Dash Jewellery

Another company is offering Morse Jewellery designed by a goldsmith based in Scotland. The advertisement appeared in the Scottish Daily Mail. For more information telephone +44 (0) 141-639-3344 or visit the website: www.morsecollection.com
(Information John McGinty)

Station KPH - Night of Nights III

In the third annual event that has become known as the Night of Nights historic Morse code radio station KPH was on the air in commemoration of the last commercial Morse message sent in North America.

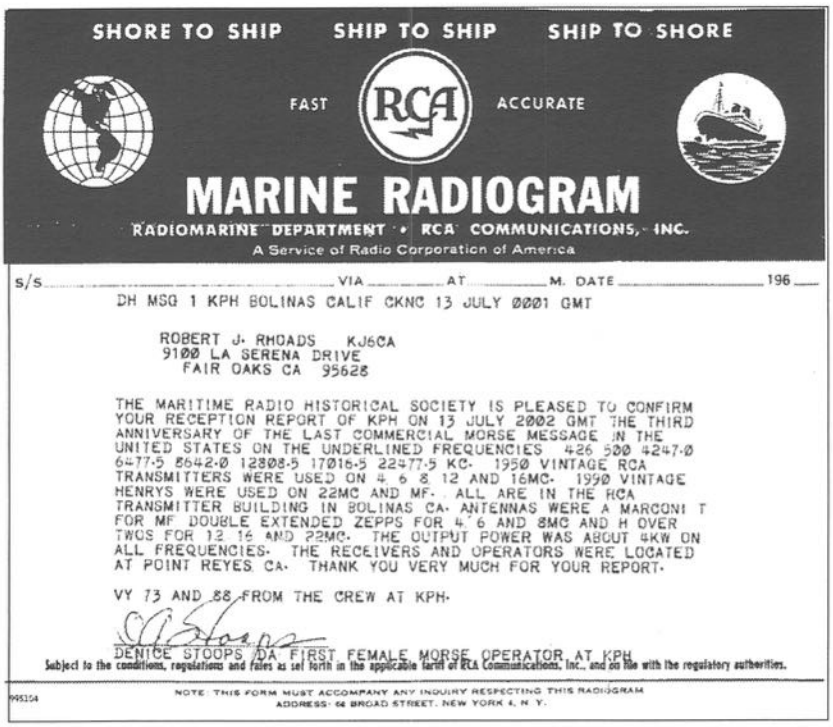
KPH, the ex-RCA coast station located north of San Francisco, returned to the air for commemorative broadcasts on 13th July at 3 years and one minute after the last commercial Morse transmission in North America. For this third annual Night of Nights one frequency for equally historic coast station KFS was also activated.

KPH was on the air again on 17th August for communications with the SS Lane Victory/KECW during the ship's weekend cruise.

These on-the-air events are intended to honour the men and women who followed the radiotelegraph trade on ships and at coast stations around the world.

Veteran Morse operators, including many former KPH and KFS staff members, were on duty at the receiving station at Point Reyes, CA listening for calls from ships and sending messages just as they did for so many years before Morse code operations were shut down.

The transmitters are located 18 miles south of Point Reyes in Bolinas, CA at the transmitting station established in 1913 by the American Marconi Co. The original KPH transmitters, receivers and antennas will be used to activate



SHORE TO SHIP SHIP TO SHIP SHIP TO SHORE

FAST RCA ACCURATE

MARINE RADIOGRAM

RADIOMARINE DEPARTMENT • RCA COMMUNICATIONS, INC.

A Service of Radio Corporation of America

S/S ____ VIA ____ AT ____ M. DATE ____ 196__

DH MSG 1 KPH BOLINAS CALIF CKNC 13 JULY 0001 GMT

ROBERT J. RHOADS KJ6CA
9100 LA SERENA DRIVE
FAIR OAKS CA 95628

THE MARITIME RADIO HISTORICAL SOCIETY IS PLEASED TO CONFIRM YOUR RECEPTION REPORT OF KPH ON 13 JULY 2002 GMT THE THIRD ANNIVERSARY OF THE LAST COMMERCIAL MORSE MESSAGE IN THE UNITED STATES ON THE UNDERLINED FREQUENCIES 426 500 4247.0 6477.5 8642.0 12808.5 17016.5 22477.5 KC. 1950 VINTAGE RCA TRANSMITTERS WERE USED ON 4 6 8 12 AND 16MC. 1990 VINTAGE HENRYS WERE USED ON 22MC AND MF. ALL ARE IN THE RCA TRANSMITTER BUILDING IN BOLINAS CA. ANTENNAS WERE A MARCONI T FOR MF DOUBLE EXTENDED ZEPPS FOR 4 6 AND 8MC AND H OVER TWOS FOR 12 16 AND 22MC. THE OUTPUT POWER WAS ABOUT 4KW ON ALL FREQUENCIES. THE RECEIVERS AND OPERATORS WERE LOCATED AT POINT REYES CA. THANK YOU VERY MUCH FOR YOUR REPORT.

VY 73 AND 88 FROM THE CREW AT KPH.

DENICE STOOPS DA FIRST FEMALE MORSE OPERATOR AT KPH

Subject to the conditions, regulations and rates as set forth in the applicable tariff of RCA Communications, Inc., and on file with the regulatory authorities.

995104

NOTE: THIS FORM MUST ACCOMPANY ANY INQUIRY RESPECTING THIS RADIOGRAM
ADDRESS: 66 BROAD STREET, NEW YORK 4, N. Y.

frequencies in all the commercial maritime HF bands and on MF as well.

Operators listened for calls from ships on 4184.0, 6276.0, 8368.0, 12552.0, 16736.0 and 22280.5kc on HF and 500kc on MF. The stations sent traffic lists, weather and press broadcasts and commemorative messages, many sent by hand.

Reception reports were welcome and a QSL "Marine Radiogram" was sent from Denise Stoops, the first female operator at KPH.

Further information about KPH may be found on the Maritime Radio Historical Society Web site at: http://www.radiomarine.org

(Information: Richard Dillman, W6AWO; QSL Robert Rhoads. KJ6CA)

Morse at Muckleburgh

The Muckleburgh Collection, a military museum at Weybourne on the North Norfolk coast, England, featuring working tanks and other vehicles, guns, missiles, and other militaria, has one feature of particular interest to MM readers.

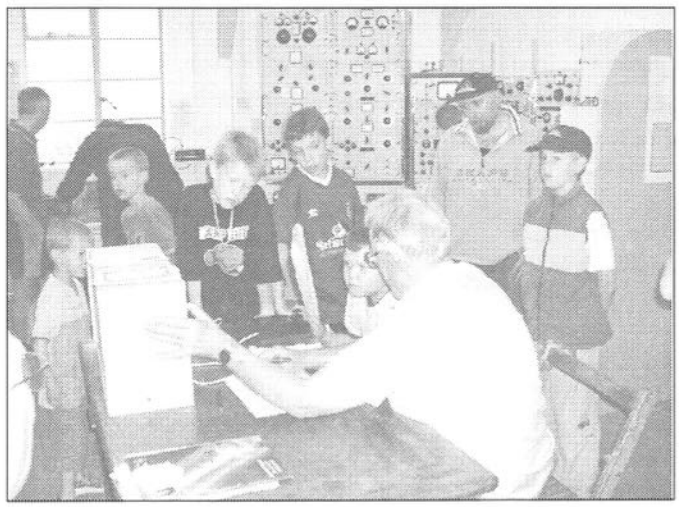
Its Radio Hut has a collection of vintage military and other transmitters and receivers dating back to pre-WW2, exhibited and maintained by members of the North Norfolk Amateur Radio Group, which also operates amateur station GB2MC on the site using CW and SSB. Members of the Group welcome visitors to the radio collection to explain or demonstrate the exhibits. Children are introduced to the wonders of a crystal set, a potato-powered radio and a working 1920's horn-speaker set, before being shown how to send their name in Morse. During 2002, up to the end of September, over 800 children took this "Morse test" (roughly equivalent to the Foundation Licence Morse Assessment!) and were given certificates to record their accomplishment.

A popular exhibit is a computer simulation of the messages sent by and to the *Titanic* in 1912 up to the time of her sinking. As the messages are sent in Morse, with different speeds and tones representing the different "operators", they are translated onto the computer screen for the benefit of visitors. This feature is provided by Jim Farrior (W4FOK)'s comprehensive Morse program "The Mill"* which has been mentioned in MM on a number of occasions in the past.

The Radio Hut is normally open on Wednesdays and Thursdays, and some weekends during August, when radio amateurs or other radio enthusiasts are always welcomed by the Group if they introduce themselves. The Thursday "team" usually includes three MM enthusiasts, Dick Gallop G0KNQ, Jack Willies G3DRL, and Tony Smith G4FAI, so MM readers are especially welcome on that day!

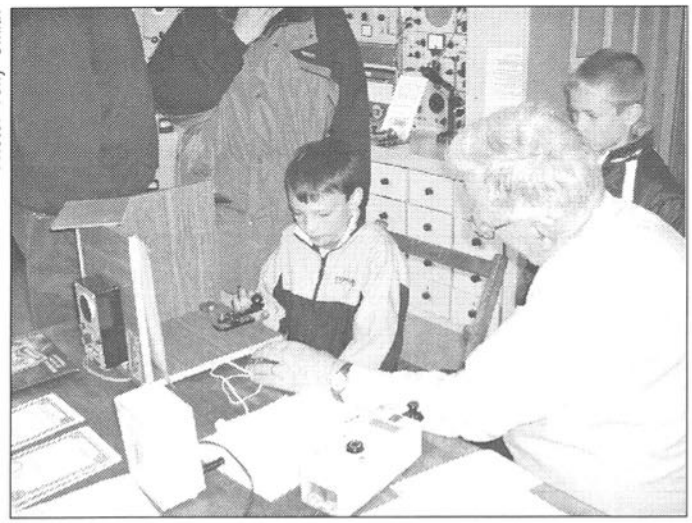
The Muckleburgh Collection is open from February to October. Further information about the NNARG and its work at Muckleburgh, and

Photo: Tony Smith



Dick Gallop explains the mysteries of Morse to a group of young visitors.

Photo: Tony Smith



A successful candidate taking the "Morse test" at Muckleburgh.

the Military collection itself, can be found on the internet at www.nnarg.co.uk and www.Muckleburgh.co.uk . There will be a more detailed report on the radio collection in MM the New Year in time for the 2003 season.
(Report by Tony Smith, G4FAI.)

**"The Mill" is obtainable as freeware on the internet at www.net-magic.net/users/w4fok*

Sadly, since the above report was written, Dick Gallop G0KNQ, chairman of the NNARG, died on 28th September 2002. An account by Dick of his experiences at the North Eastern School of Wireless Telegraphy, in 1948, appeared in MM68, p.39. - Ed.)

G-QRP Club

The G-QRP Club promotes and encourages low-power operating on the amateur bands with activity periods, awards and trophies. Facilities include a quarterly magazine, Morse training tapes, kits, traders' discounts and a QSL bureau. Novices and SWLs welcome.
Enquiries to **Rev. George Dobbs G3RJV, St Aidan's Vicarage, 498 Manchester Road, Rochdale, Lancs OL11 3HE.** Send a large s.a.e. or two IRCs

FISTS CW Club – The International Morse Preservation Society

FISTS exists to promote amateur CW activity. It welcomes members with all levels of Morse proficiency, and especially newcomers to the key.

The club has awards, nets (including a beginners' net), dial-a-sked for beginners, straight key activities, QSL bureau, newsletter, and discounts from traders.

Further information can be obtained from **Geo. Longden G3ZQS, 119 Cemetery Road, Darwen, Lancs BB3 2LZ.** Send an s.a.e. or two IRCs.

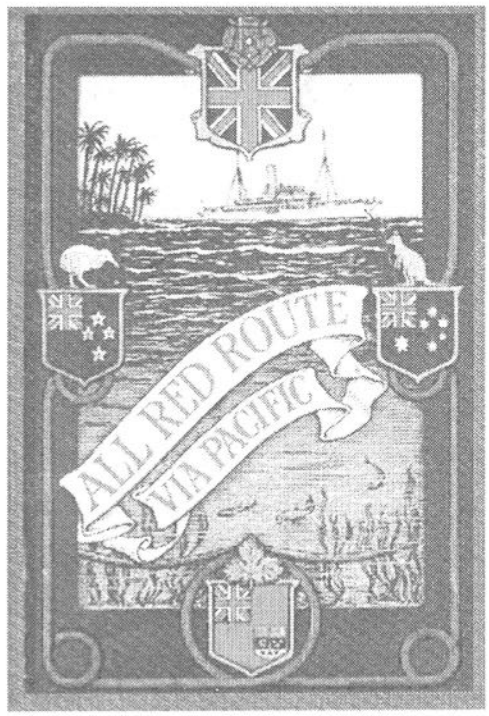
Pacific Submarine Cable Centenary Celebrations

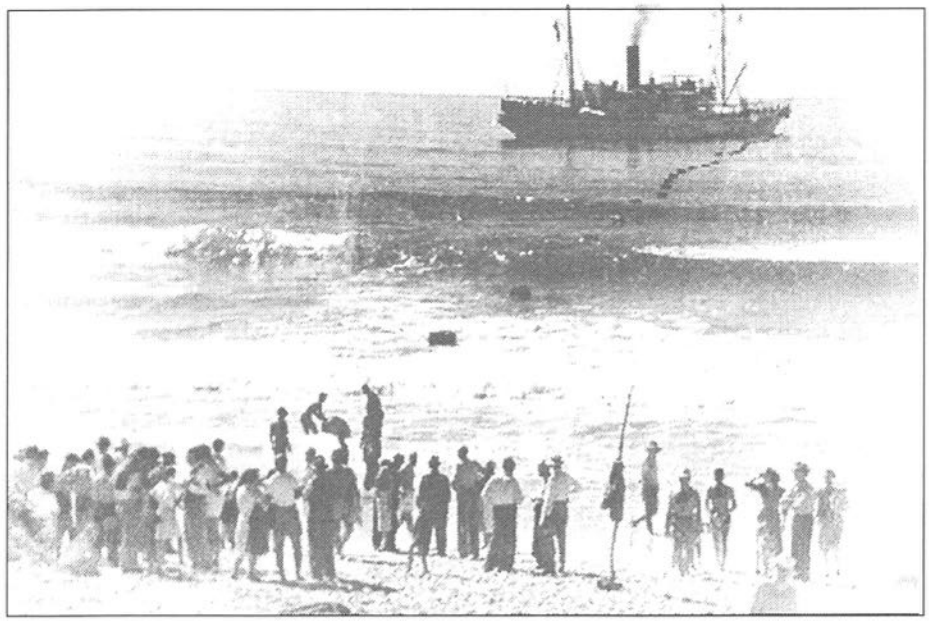
This year marks the centenary of the completion of the Pacific Submarine Cable, which was laid under the Pacific Ocean in 1902, and ran from Southport (Queensland, Australia) to Bamfield (British Columbia, Canada). To celebrate this achievement the Pacific Centenary Committee, Australia has been instrumental in organising ceremonial events to be held in the various countries along its route.

For technical reasons, the Pacific cable was landed onto various Pacific Ocean islands so that the weak signal could be re-transmitted back and forth over the 13,555 kms of insulated copper wire. These intermediate island locations were Norfolk Island, Fiji and Fanning Island (now known as Tubureran Is). There was also a branch of the cable that ran from Norfolk Island to New Zealand, and landed at Doubtless Bay, north of Auckland. Because all of these locations were part of the British Empire, the cable was also known as the "All Red Route" (as red was the colour associated with Britain and her colonies).

An important significance of this cable was that it made up the final stage of a "round-the-world" telegraph system. Up until this time, there were only submarine cables crossing the Atlantic and Indian Oceans and so a failure of these cicuits meant total isolation for Australia and New Zealand.

A notable feature of the new cable was that the Fanning Island to Bamfield





The cable is brought ashore at Southport

(Canada) run would be the longest unassisted submarine cable length in the world, and still holds the record to this day, although present day submarine cables have booster amplifiers that are built into the cable every 20 to 40 kms.

The contract to lay the cable was awarded to the Telegraph Construction and Maintenance Company of England, and as they didn't have a ship large enough to handle over 6,404 km of heavy cable for the Fanning Is. to Bamfield run, they built the Cable Ship Colonia, costing one million pounds sterling.

The Southport event on October 31st 2002 had grown to include displays of historical communications equipment, through to a present day amateur radio display. Also there were displays showing the various types of submarine cables, from telegraph and co-axial, to today's fibre optic. The event was a success with over 300 visitors to the event and ceremony, including many old cable operators.

A software program, designed by John Samin, called CW Communicator (CWcom), which allows Morse to be used via the internet, was used for the exchange of messages between Southport, Queensland and Porthcurno, Cornwall, UK, one of which was from HM Queen Elizabeth II.
The Queen's message was sent in Morse to all on channel.

More information on CWcom is available on the web site: http://www.mrx.com.au/
Morse is sent using either a keyboard, a mouse, a joystick, or a real morse key. Incoming Morse messages can be

OCTOBER 2ØØ2. LOYAL GREETINGS TO HER ROYAL HIGHNESS, QUEEN ELIZABETH II FROM SOUTHPORT, QUEENSLAND, ORIGINAL LANDING PLACE OF THE PACIFIC TELEGRAPH CABLE

MADAM. IN 2ØØ2, YOUR GOLDEN JUBILEE YEAR, THE WORLD IS CELEBRATING THE 1ØØTH ANNIVERSARY OF THE FIRST MESSAGE SENT USING A SUBMARINE TELEGRAPH, BETWEEN SOUTHPORT, QUEENSLAND AUSTRALIA, CANADA AND CONNECTING THE ALL RED LINE AROUND THE WORLD. WE SEND YOU OUR LOYAL GREETINGS AND INVITE YOU TO JOIN WITH US IN SENDING A MESSAGE AROUND THE WORLD TO CELEBRATE THE 1ØØTH ANNIVERSARY OF THE COMPLETION OF THIS, THE FINAL LINK IN THE ALL RED LINE, ON OCTOBER 31, 2ØØ2. THIS WAS THE UNDERSEA CABLE ROUTE THAT WAS THE VITAL CONNECTION TO ALL THE PIECES OF THE BRITISH EMPIRE. OUR COMMEMORATIVE CEREMONY IS DUE TO COMMENCE AT 1Ø AM (AEST) FROM THE PACIFIC CABLE STATION (NOW PART OF THE SOUTHPORT SCHOOL) ON THURSDAY, OCTOBER 31, 2ØØ2. THE SOUTHPORT SCHOOL IS A GPS BOYS SCHOOL LOCATED AT SOUTHPORT AND WE ARE HOSTING THIS CELEBRATION AS THE MUSIC DEPARTMENT IS LOCATED IN SEVERAL OF THE CABLE STATION BUILDINGS AND WERE MOVED TO THE SCHOOL GROUNDS IN 1981.

Message received via Porthcurno from Southport

31/1Ø/2ØØ2 CQ CQ CQ DE PORTHCURNO. GREETINGS TO EVERYONE MARKING THE CENTENARY OF THE FIRST PACIFIC CABLE FROM ALL AT PORTHCURNO. HERE AT THE MUSEUM OF SUBMARINE TELEGRAPHY WE ARE DELIGHTED TO BE TAKING PART IN THE CELEBRATIONS. PORTHCURNO IS ENGLANDS HISTORIC HOME OF WHAT SOME TODAY ARE CALLING THE VICTORIAN INTERNET. IN 187Ø THE FIRST CABLE WAS LAID FROM HERE TO BOMBAY AND BY THE EARLY 2ØTH CENTURY PORTHCURNO WAS THE WORLDS LARGEST TELEGRAPH STATION. TODAY IT IS A HERITAGE SITE WHICH CELEBRATES THE WONDERFUL HISTORY OF INTERNATIONAL SUBMARINE CABLE COMMUNICATIONS. WE ARE PROUD TO PARTICIPATE IN THE CELEBRATION TO MARK THE LAYING OF THE LAST MAJOR LINK IN THE VICTORIAN GLOBAL NETWORK.

The Porthcurno message sent in Morse prior to the Queens message

31/10/2002 08:26 DE PORTHCURNO: BUCKINGHAM PALACE. 30TH OCTOBER 2002. THE QUEEN WAS PLEASED TO RECEIVE YOUR KIND MESSAGE OF LOYAL GREETINGS SENT ON BEHALF OF THE CABLE AND WIRELESS PORTHCURNO AND COLLECTIONS TRUST ON THE OCCASION OF THE CENTENARY OF THE FIRST CABLE ACROSS THE PACIFIC OCEAN FROM BAMFIELD VANCOUVER ISLAND BRITISH COLUMBIA IN CANADA TO SOUTHPORT QUEENSLAND IN AUSTRALIA WHICH CONNECTED THE ALL RED LINE AROUND THE WORLD AND IS BEING CELEBRATED BY SENDING A MESSAGE IN MORSE CODE VIA THE INTERNET TO CANADA NEW ZEALAND AND AUSTRALIA. HER MAJESTY SENDS HER BEST WISHES TO ALL THOSE CONCERNED FOR A NOTABLE AND SUCCESSFUL EVENT IN THIS HER JUBILEE YEAR. ELIZABETH R.

Message from Queen Elizabeth II

visually seen as a flashing light on the computers monitor, in addition to being heard as tones from the soundcard's speakers. There is also a circuit for the connection of a Morse sounder, if preferred.

For those not trained in Morse code, CW Communicator provides for words to be transmitted by typing them on the keyboard. Likewise, incoming Morse messages can be automatically translated back to text on the computer's monitor.

*With thanks to John Alcorn, Henry Cranfield (OTVA), Mary Godwin (C&W Porthcurno Trust), Mark Hanrahan (Pacific Cable Centenary Committee – Australia), John Samin, Tony Smith.**MM***

Morse Practice Sets – Part 2

by Tony Smith

Over the years, many types of Morse Practice Sets have been produced and have become collectables. The second part of this article concludes the short selection of such sets submitted by MM readers at various times. As noted in the first part, it would take a whole book to cover the subject in detail.

BUZZA PRODUCTS in Australia made a *Morse Code Apparatus No.2* (Figure 11), probably in the 1930's, costing 16 shillings and sixpence. Grandly called a "Radio Telegraph Set", it had a strap key made from .05 inch thick steel requiring a pressure of 800 grams to close it, which must have been very difficult to use. The instructions include the advice, "If you telegraph over long distances a larger battery will be found useful." With contacts made from nuts and bolts with washers, it is a far cry from the much more professional Buzza auto-key, but nevertheless an example of this set in poor condition was seen in an

Photo: Colin MacKinnon

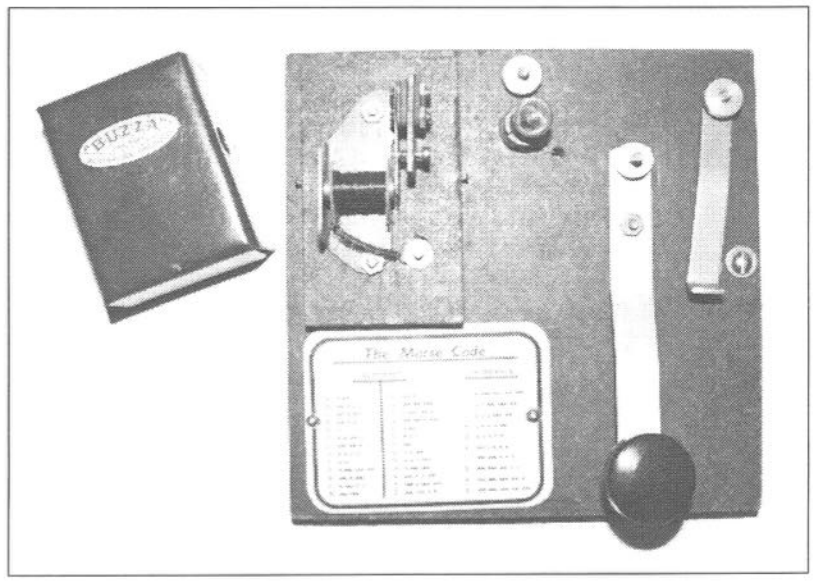


Figure 11. Buzza Morse Code Apparatus No2.

Photo: Jack Barker

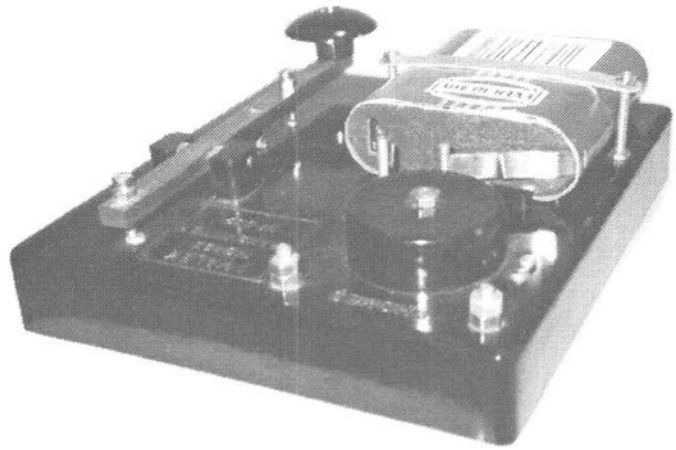


Figure 12. Ivalek Morse Transmitter No. 559.

Australian antique shop some years ago for A$100 (about £50).

The Ivalek *Morse Transmitter*, No. 559, another set with a grand name, had an adjustable buzzer and phone terminals. (Figure 12).

Some sets had primitive keys, rather like the Buzza set, which really made them little more than toys. Wording on the box of the *Morse Tapper Set* (Figure 13), of unknown origin, says: "Useful for Scouts, Girl Guides and others, who wish to perfect their knowledge of the Morse Alphabet", but as can be seen in the illustration the key has much to be desired.

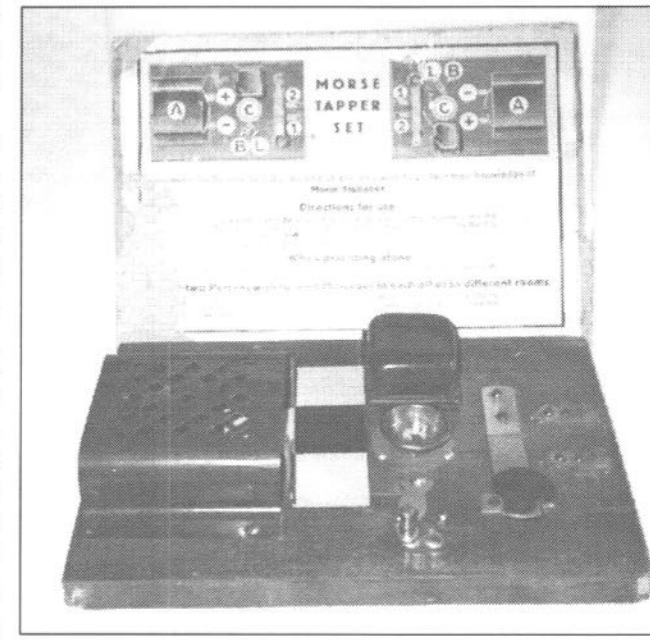


Photo: Jack Barker

Figure 13. Morse Tapper Set, maker unknown.

Photo: Wyn Davies

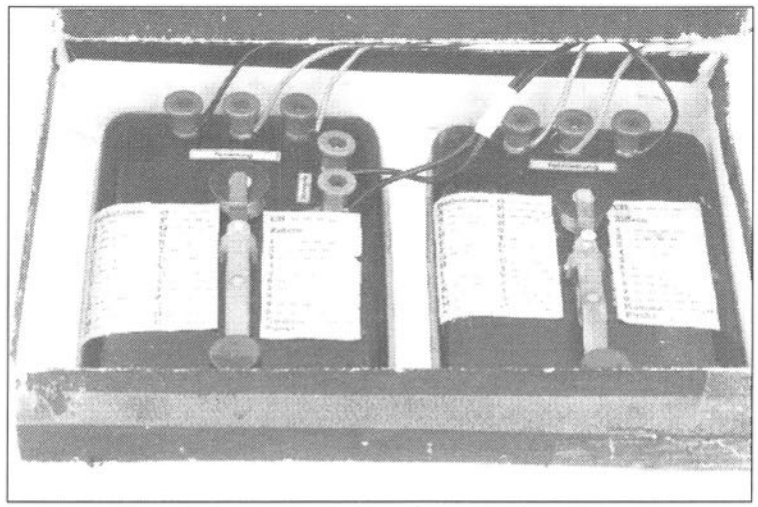


Figure 14. German Electric Morse Apparat twin practice set.

From Germany comes the *Electric Morse Apparat*, a set of two instruments intended to work together. (Figure 14), also with crude keys, and another (unknown) twin set from the same country is shown in Figure 15).

Oscillator circuits

Before the advent of the transistor, valve (tube) oscillators gave good service in Morse practice circuits with a more realistic tone than was obtainable from a buzzer, but had the disadvantage of requiring H.T. and L.T. power supplies. The transistor, with its ability to operate from a battery with low current brought in a new generation of Morse practice equipment.

Photo: Wyn Davies

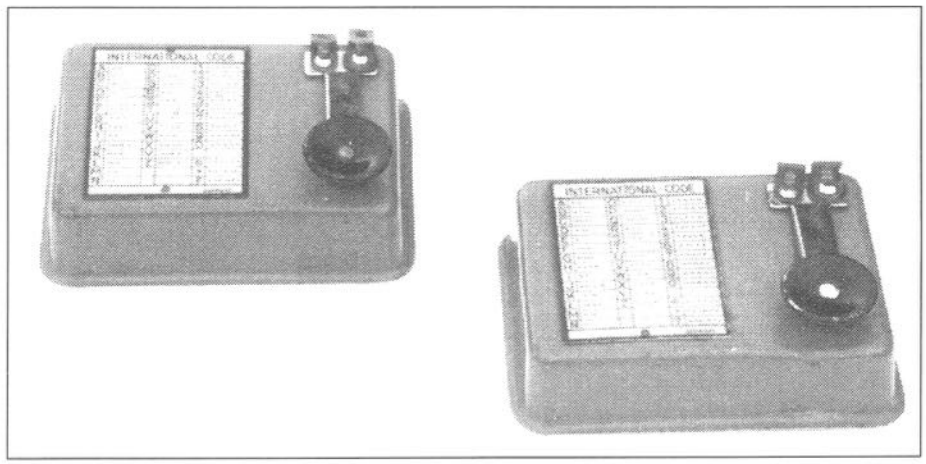


Figure 15. Another twin set from Germany, maker unknown.

Figure 16. Code Practice Oscillator Kit with transistor circuit and Key WT 8 Amp, advertised by Burstein-Applebee Co., date unknown. (From ARRL Radio Amateur's License Manual, date unknown. Contrib. Chris Bisaillion)

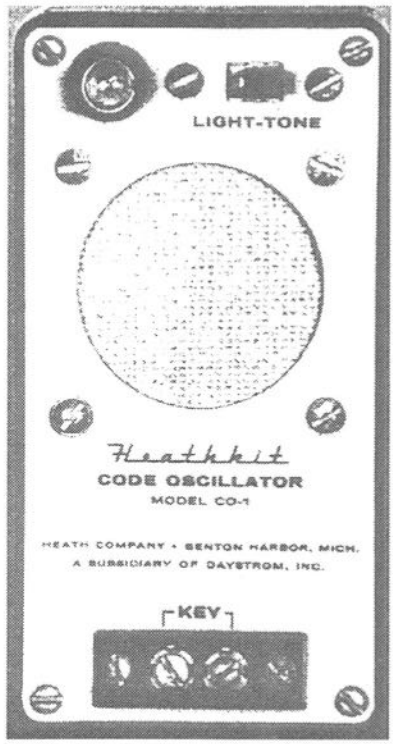


Figure 17. Heathkit model CO-1. (From unit manual. Contrib. Chris Bisaillion)

An early *Code Practice Oscillator Kit* advertised by Burstein-Applebee Co. in the ARRL Radio Amateur's License manual (date unknown) has a transistor circuit keyed by a war surplus British Army Key WT 8 Amp. (Figure 16).

Heathkit Models

A noted supplier of code oscillators was the Heath Company whose Heathkit kits were widely used by the radio amateur community. In 1959 they introduced their model CO-1 (Fig.17) housed in a plastic box. Supplied with a key, it was powered by 2 C-cells, and had switchable audible or visual code signals. Although produced over a period of some 8 years, apparently this model is hard to find nowadays.

In 1967, Heath replaced the CO-1 with the much more elaborate HD-16 (Fig.18) housed in a substantial metal cabinet, and using a unijunction transistor. Again provided with a key, this model had volume and tone controls,

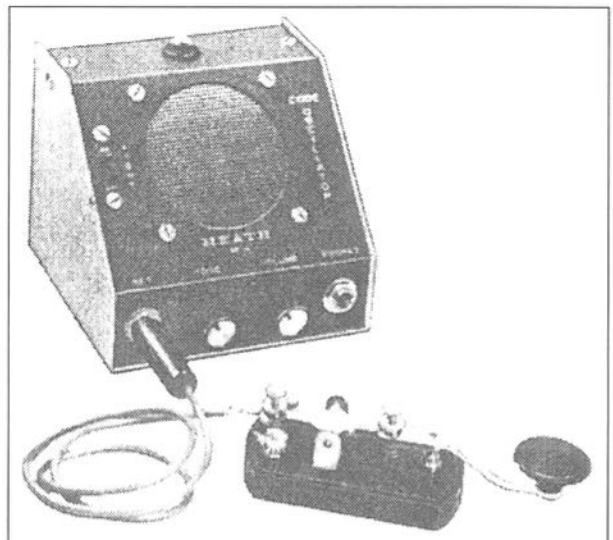


Figure 18. Heathkit model HD-16. (From unit manual. Contrib. Chris Bisaillion)

key, it had a built-in speaker, volume and tone controls on the back; with phone jack and binding posts (terminal screws) for the key on the front. It could also be used as a sidetone oscillator for transmitters using grid-block keying. Later versions, the HD-1416A and HD-1416H, had identical features but with different knob styles and case colours. The styling of each of these instruments was intended to be compatible with the then current Heath amateur radio equipment.

a built-in speaker, key and headphone jacks, and a bulb for visual light signalling.

In 1975, Heath replaced the HD-16 with the HD-1416 (Fig.19), a three transistor oscillator housed in a much smaller (plastic) case. Provided with a

Thanks

Thanks to all contributors, as noted against the various illustrations, who have provided information and/or photographs, etc, for this selection of Morse Practice Sets. *MM*

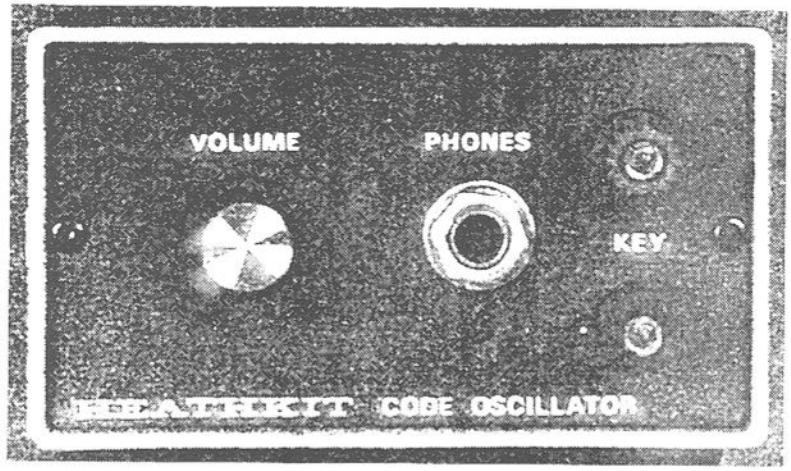


Figure 19. Heathkit model HD-1416. Could also be used as sidetone oscillator for transmitters using grid-block keying. (From unit manual. Contrib. Chris Bisaillion)

Morse Practice Nets

Antarctic Memories

QRL? QRL?

by Dr Gary Bold

MORSE PRACTICE NETS come and go, as interest, and candidates either graduate or fall by the wayside. In response to a request in Info-Line, John and John, ZL1ALZ and ZL1BYZ responded

We ran a standard 'send and talk' type practice session at 6 and 12 wpm for some time, but ran out of takers. So we changed to a CW net, and ran it on Monday and Thursday starting at 1930 UTC. We use 3.570 MHz, with 3.560 MHz as a secondary frequency. Regular check-ins include ZL1WT, ZL1IJ, ZL1AAS, ZL1DK, ZL2KEL, all fairly new CW ops - and ZL1ANF, ZL1NM, ZL1AAW, ZL2KC. We always invite listeners to join in, and some ZLs and the odd VK do so.

We are not long-winded. We do about two rounds on CW, with overs kept very short, then change to SSB to sort out any problems that participants have encountered. Most of these are the 'normal' ones such as using the wrong antenna, leaving the RIT on, attempting to net by frequency and not by ear.

These are things that experienced operators take for granted, but which are not covered in the Morse test. They cause problems that some new operators are meeting for the first time.

It is pleasing to see regular participants beginning to call and answer CQs, and take part in contests on their own initiative. The net speed has gone from about 12 wpm (18 wpm Farnsworth) to 18 wpm (22 wpm Farnsworth), although we are always very pleased to slow down for any newcomers. Don't hesitate to ask! Charlie, ZL1DAC, sent this information from the Whangarei Club:

Our practice session operates on 3.580 MHz plus or minus QRM(VK) every Tuesday night at 1930 Hrs Local Time. Each session consists of stations sending to each other text from Break-In. Since everybody can look this up, we avoid wasting time reading it back.

A batch of call signs is also normally sent by the net controller, as are groups of numbers. The net control station is normally Paul, ZL1PC, or his deputies Ron ZL1AJP, or Rod ZL1BBJ. Speeds are adjusted depending on participants and normally range between 12 and 25 WPM. Ron ZL1AJP conducts learners' groups on our 147.200 MHz repeater as required, by request." Dave, ZL1DW, sent this:

Our CW group, originally on 3.550 MHz for many years has changed frequency due to continued interference.

We now operate on 3.555 MHz Monday to Friday from 1930hrs NZST during the winter, and from 2030hrs during daylight saving. Sessions last for an hour with speeds ranging from 6 wpm to 14 wpm Farnsworth with overs consisting of plain language text and a number group.

Operators vary during the week allowing a variety of keying styles, something that prepares listeners for on-air CW, as opposed to receiving only computer generated Morse. They also gain experience under adverse receiving conditions existing at times during the year.

Regular operators; from Alexandria (ZL4LO), Cronadun (ZL3LE), Christchurch, mobile (ZL2AT), Timaru (ZL3ADT), New Plymouth (ZL2DBA), Papatoetoe (ZL1JKB) and Port Waikato (ZL1DW) keep things going and welcome any members who wish to assist on either a casual or long term basis. Just check in prior to a session to be made welcome!" My thanks to those who run these nets. I know from experience what a commitment it is. If there are other nets, let us know.

Review: MixW Software

Chris, ZL1BOE contacted me to discuss an impressive software package by Nick Fedoseev, UT2UZ. This implements logging and sound card software covering practically all of the modes commonly used by hams in one program. Chris was so enthusiastic about the latest version that I asked him for a review. He sent this:

Those familiar with Nick's DigiPan program for PSK31 will be immediately at home with MixW - only now you can use the same panoramic 'point and click' frequency acquisition and easy built-in logging on many other modes including CW, MFSK, Hell, MT63, Fax, Throb, SSTV, regular RTTY and even Packet!

The latest version, RC8, also includes partial implementations for AMTOR (no ARQ mode yet) and PACTOR 1 (currently receive only) and even offers something for voice mode operators with DSP noise and notch filters, pre-recorded CQ calls etc. It even supports old multi-mode units like the KAM and the PK-232.

Even more ambitious features include complete computer control of the newer generation of transceivers, automatic control of your beam rotator and even DX cluster operation via Internet or Packet! Click on an interesting station in the cluster window and your own station is automatically set to that mode, band and exact frequency! This reviewer does not have a beam alas, but there is a demo mode for the beam rotator control feature which shows a beam pointer working it's way around the great circle map (centred on your QTH) to the chosen SP (or LP) bearing.

Do all these features work? Well, the answer seems to be - yes they do - and in most cases as well or better than most single mode programs. This is certainly true for PSK and MFSK and even Packet (HF and VHF), which are all excellent. Hell also performs well though with only the basic Feld Hell mode available.

SSTV likewise offers basic capabilities for casual operation - the author concedes it is not intended to compete with more specialised programs in this area. RTTY is maybe not quite as sophisticated as the MMTTY program but is not far short and the availability of the DigiPan type waterfall display makes it easier to use.

As for logging and contesting capabilities, MixW is clearly targeted at serious users and already supports a considerable array of features, contest exchanges, award tracking, etc.

Maybe the most powerful feature of Mix is the way it interfaces with the station transceiver and provides a precisely calibrated frequency scale for the panoramic waterfall display. If you turn the tuning knob on your rig (not necessary for most operating!) the frequency scale slides across the screen, compensating automatically for audio offsets (CW and digimode users will love this) and allows one to net to incoming signals with great precision.

MixW's CW mode offers 'point and click' tuning with the mouse and provides keyboard Morse and paddle

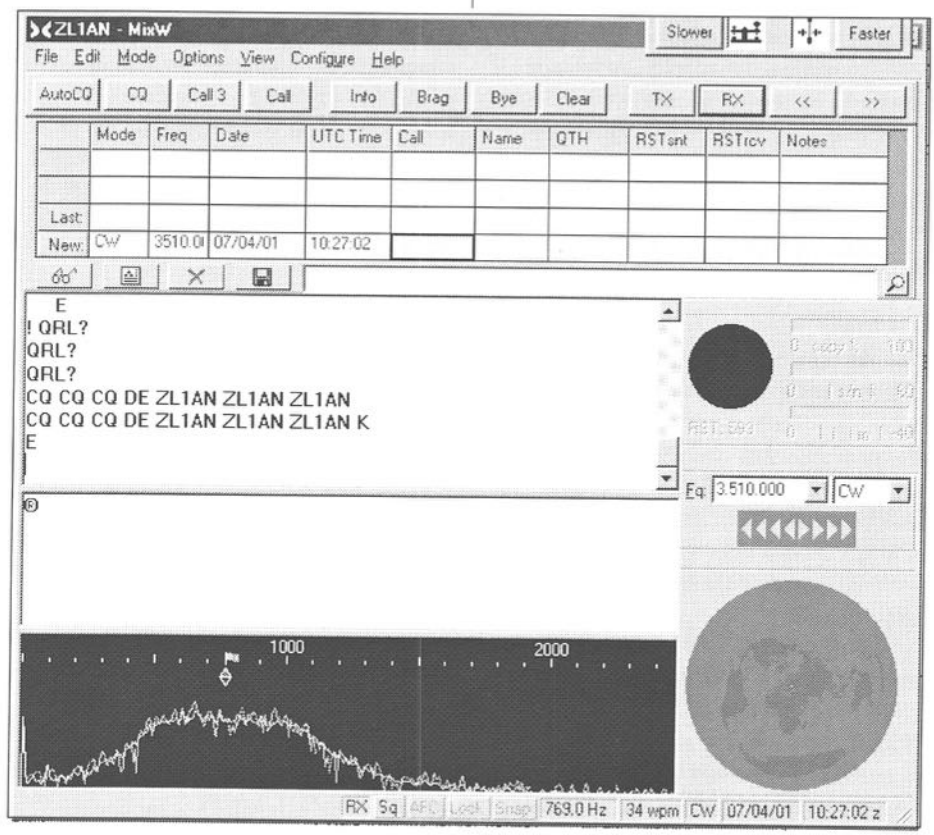


Figure 1. MixW's operating screen, with a decoded 30 wpm CQ.

support via the sound card games port. Morse auto-decoding does work but with the usual limitations. However the program supports an interesting new alternative allowing the operator to type copy manually straight into the RX window. This is a great innovation as all MixW's powerful logging features are then accessible for CW also. Callsigns, reports, names etc can all be "grabbed" for the built-in log via "point and click". Once a station's call sign and name are put in the log this way a whole range of macros written specially for CW become available. In my opinion MixW sets a new standard for relaxed computer CW operation. A slight annoyance; Morse speed control is only accessible in a small separate window using the mouse. Thus it requires several mouse actions to change speed and return to the main program windows. I'd prefer to see speed control via the cursor keys.

Nick promises a future version which will allow the operator interface and rig interfaces to reside on two different computers linked by modem or network. This opens the way for really powerful remote digimode operation - a particular interest for townhouse dwellers like me, who might in future be able to enjoy ham radio via a shared station in a remote, low noise rural location!

However, this very powerful program is not shareware. There is a US$50.00 registration charge. At the time of writing you get a few weeks of free use to convince yourself that MixW is a "must have". You have been warned!" Well, after a rave like that I had to download the latest (time limited) version from Nick's website at: http://www.nvbb.net/~jaffejim/downloads.htm

Installation was trivial, and I found that MixW read CW from my keyer (audio monitor from the rig into the soundcard) perfectly. Figure 1 shows the operating screen, with a decoded 30 wpm CQ I'd just sent. The spectral display at bottom shows only the passband noise, for alas, all the HF bands were dead, and nobody came back to me. MixW tracked speed changes from 12 to 35 wpm flawlessly. For a stiffer test, I checked it out against Sergei's CWget, using my standard taped QSO. I recorded this some while back on 80 metres, on a night when noise and QSB were moderate. CWget followed the signal down into the noise after MixW had given up, but on strong signal portions both decoded perfectly. MixW coped automatically with moderate QSB, and the audio level into the soundcard didn't seem particularly critical. I was impressed, as CWget's decoding is a hard act to follow. Nick has done a good job here. At the time of writing, there is also an earlier but (as far as I can see) freeware version, V1.45 at http://tav.kiev.ua/~nick/my_ham_soft.htm

Its CW reading capabilities seem to be the same, but I deduce that only the registered version can transmit. With all of these additional modes, MixW is well worth downloading for a trial, even if you're not a dedicated computer op. If you've never investigated this before, you'll be impressed at how well both CW and the modern modes decode. To read any of them, you just need a cable from the earphone jack to the soundcard input.

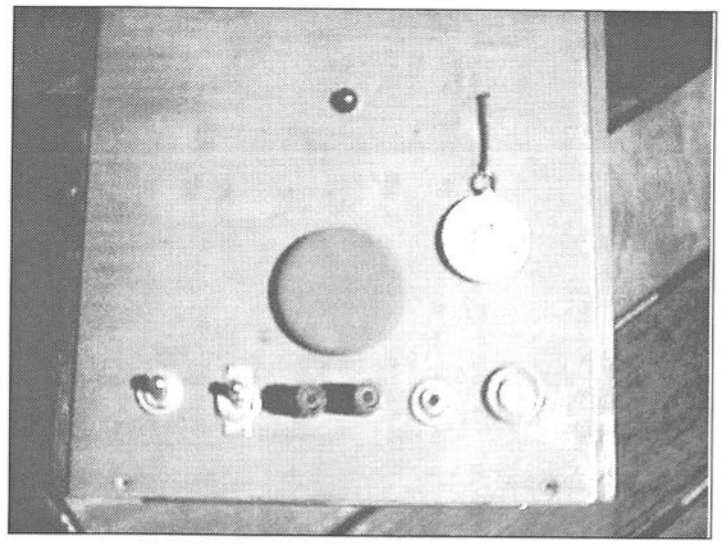


Figure 2. Scott Base Christmas present. It sends 'Courage Sacrifice Devotion' at 12 wpm

If you get hooked, join Murray, ZL1BPU and others on 3.560 MHz, most Monday, Wednesday and Friday nights around 2100 hours, for advice on using the other modes. I'm often there too. You'll usually hear weird musical tones, but we always respond to a call on SSB.

Antarctic Memories

Neville Copeland, ZL2AKV, spent some time in Antarctica. One Christmas, he received an intruiging present from John Williams, the laboratory technician, and describes it here.

"Older readers may recall an item in Break-In October 1974 (also reprinted in Morsum Magnificat 1998, page 14) 'A Ham on the Ice' where I mentioned the exchange of midwinter presents among Scott Base staff. The following explanation of the gift I received may be of interest to some Morse operators.

It came in a 8" x 8" x 4.5" box (see figure 2). This houses a mechanism and a circuit that sends, in audio Morse, the phrase 'Courage Sacrifice Devotion' at 12 wpm. This is the inscription on the reverse side of the American Antarctic Service medal which was awarded to all personnel who wintered over.

With no knowledge of the Morse code, John had painstakingly drilled a series of 1/32" holes at 2" radius (figure 3) through a 5" diameter aluminium disc; single holes to produce 'dits' and a group of 3 holes filed into a slot to produce 'dah's'. The disc was mounted on the shaft of a small 3 rpm synchronous motor.

A 2.4-volt lamp closely mounted above the disk shone through the combinations of holes and/or slots as the disc rotated. The interrupted light was picked up by a photoelectric cell, activating a multi-vibrator and 3-transistor oscillator which produced an audible tone through a small speaker combined with an earphone jack mounted on the top of the case. The circuit is shown in figure 3.

A dwell in the periphery of the

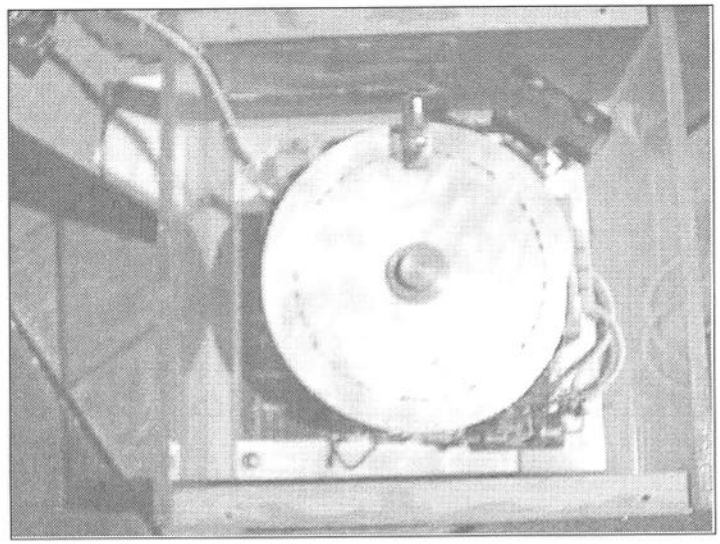


Figure 3. Holes drilled at 2" radius through a 5" diameter aluminium disc to generate the dots and dashes.

rotating disc activated an on/off switch once per revolution. If continuous running was desired a second switch was provided to override this. Provision was also made for a hand-key or auto keyer to be plugged in for practice sessions. Also mounted on the case was a small plaque (read Double sided PC board) upon which is inscribed in Gothic Script details of presentation, to whom, from and date etc. On the inside of the box John had inscribed the following verse:-

To he who sends greetings from the snow,
From those intrepid folks down below,
He's really quite a devil,
Is the one called Neville,
Our man who inhabits the PO.
'Tis midwinter the year of seventy-three
That this box of goodies comes to thee,
So Neville our friend,
When you're going 'round the bend,
Plug in - push the button - let it key!

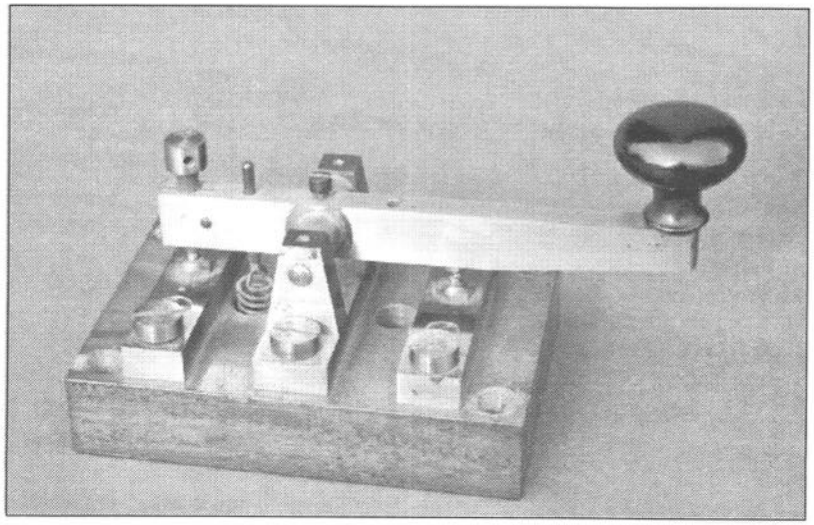
QRL? QRL?

Recently several people have queried me concerning the recommended procedure for checking a frequency before calling. I always use the procedure in the heading: Call "QRL?" (is this frequency in use?) a couple of times, and wait for 5 seconds after each call. If the frequency is occupied, a variety of replies may come back: "R", "YES", "Y", "C" (abbreviation for 'yes'), "QSY" (pse go away). It doesn't take long, and is the courteous thing to do. But it's surprising how often folks don't do this. It's very frustrating to hear a strong "CQ" suddenly erupt on top of the station you're working with no warning. And mostly, the people who do this don't seem to be using QSK, and don't hear any protests you make. And I'm afraid some of them are old-timers, who should know better. To new ops., this may seem unnecessary. Surely, if you listen for a minute or so, and hear nothing, you can conclude that the frequency is clear? Not so. Somebody who can hear you may be listening to a station whose signal isn't propagating to them, or who has a better QTH or antenna. This is very common. If you don't call, you don't know. *MM*

Showcase

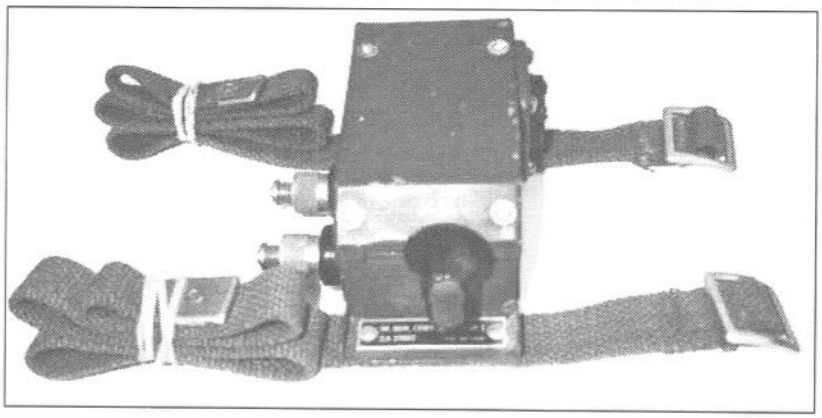
Readers are invited to contribute any additional information and stories, no matter how minor, to the Editor, Morsum Magnificat. There have been thousands of designs of keys & telegraphy instuments. Information will be lost unless it is compiled in one place and shared with other readers.

Photo/Collection: Fons Vanden Berghen - Halle, Belgium



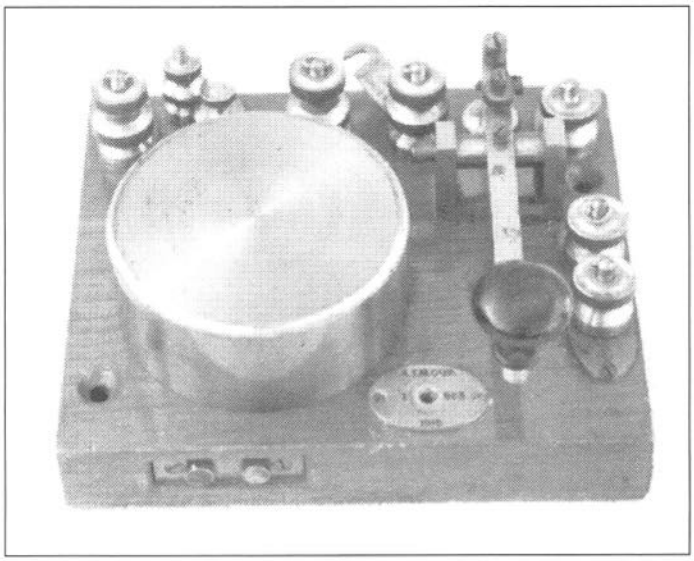
The key must be a Siemens & Halske model (enforced by the fact that it came together with another S&H item) . The colour and look of the brass and its lacquer (original) is really superb (as new) !!

Photo/Collection: Wyn Davies



Remote Control Unit 'L' MK II as used with the British Army Wireless Sets No. 62 and C12. The key itself is similar to those used with the B2 spy-set.

Photo/Collection: Malclom Brass



1915 Telegraph, Vibrating made by ATM Co Ltd. (Automatic Telephone Manufacturing Co.). This is a portable device and the plate on the base includes a threaded hole for storage of the knob so that the instrument would fit in a carrying case.

Photo/Collection: Jack Barker

The Admaston Morse Practice Set from Japan. It is well made and includes a full and complete set of 50 cards of the international code and procedures; also maritime procedures.

Messages Music and Morse - Part 2 -

by E. Geoffrey Walsh[1] GM4FH

IN 1846 ROYAL E HOUSE developed a printing telegraph using a piano type keyboard with white and black keys (Figure 12). It could send messages more rapidly than could be sent by Morse, but its reliability was poor.

David E. Hughes, London born, was a Professor of Music at New York University. He patented in 1855 a system by which telegrams could be sent from a keyboard similar to that of a piano (Figures 13 & 14). The system, with improvements, continued to be widely used, especially on the continent, for many years. Even in its early form speeds of up to 45 w.p.m. might be reached, as opposed to about 25 w.p.m. with hand sent Morse.

Emil Baudôt developed a system that used five keys, two for the left hand and three for the right (Figure 15). Letters and numbers were sent by combinations and permutations in the ways the keys were operated; the movements had to be synchronized to the beats of the commutator.

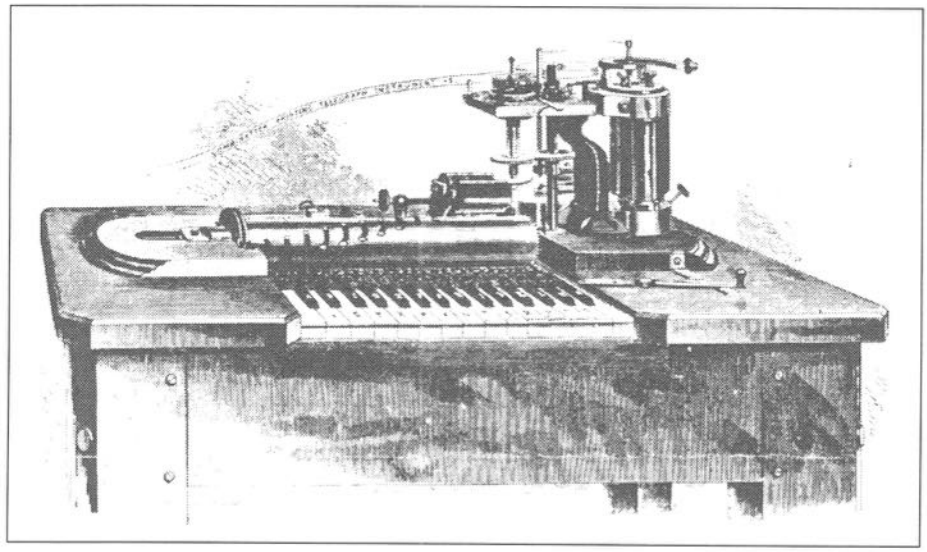


Figure 12. House's printing telegraph.

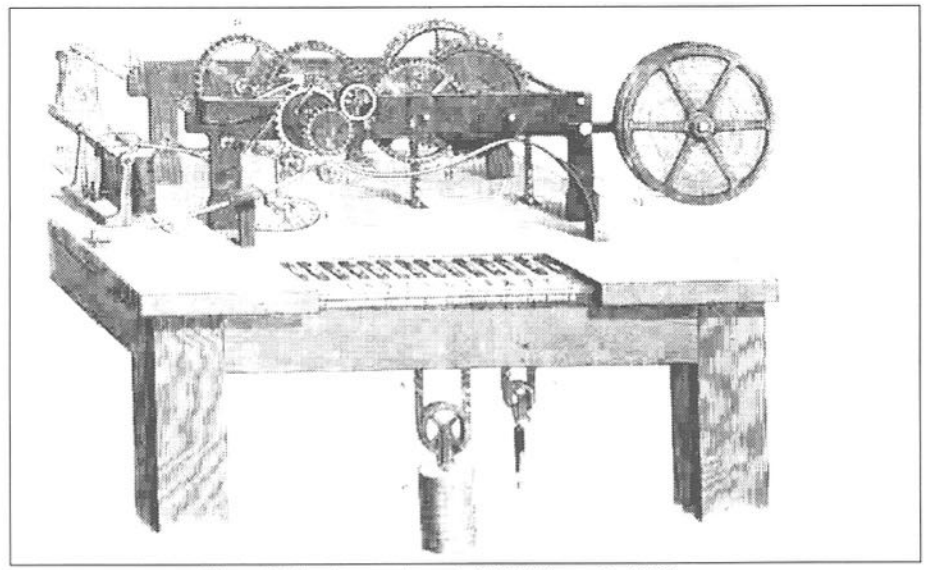


Figure 13. Hughes equipment of 1855 (Figureuier 1866).

Figure 14. A later version of the Hughes instrument than that of figure 13. In the left lower corner a Wheatstone ABC instrument is shown in use (Illustrated London News, Nov. 28th 1874).

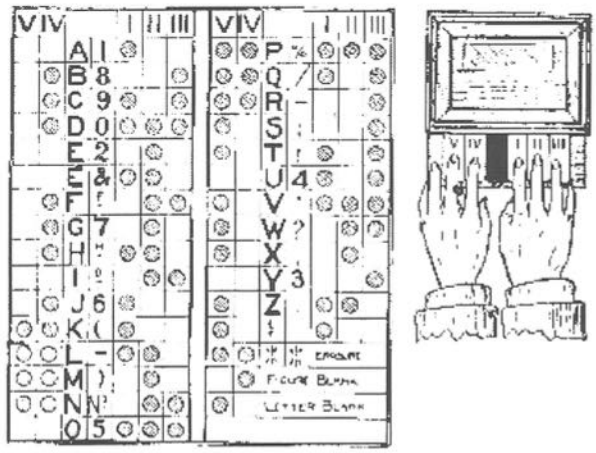


Figure 15. Baudôt table of coding and keyboard.

Knox's (undated) account reads:

'You will remember that in the early days it was thought that the passage of electricity was instantaneous. While this is not the case, its passage across the wire is enormously more rapid than any signaling that can be done by man. Consequently, there is plenty of time for six men to be sending messages one after another along a wire if only they could be certain to keep time and not interfere with each other, and if the receiving operators could each have one of the six signals and one alone. This is what the Baudôt system has made possible. It works by means of a ring, divided into segments, round which a copper brush revolves 180 times a minute. Each of the six transmitting operators has five segments electrically connected to his instrument and insulated from the others. The corresponding instrument—the one in the Central Telegraph Office is connected to Birmingham - has its six receiving operators, and, amazing as it sounds, the rotating brush of their instrument is revolving not only at the same speed, but segment for segment in exact correspondence with that in London. Now just as a metronome beats out the time accurately, so this instrument helps the operators to keep time by giving each a warning sound when it is his turn to signal; he depresses his key, and by the time he is ready to send his next signal the brush is round again. The instrument also locks and unlocks his keys, by means of an electro-magnet, so that even apart from the insulation he is mechanically unable to break in on to someone else's segments. This all sounds rather a slow process, but you must remember that a telegraphist has his sense of rhythm highly trained by the Morse code, so that as soon as he is used to the instrument he transmits at a regular normal speed. You can imagine the saving that is effected in this way. In ordinary circumstances each operator can send thirty words a minute. The twelve of them—on the duplex system there will be six transmitters and six receivers each end—can polish off between them, therefore, 300 words to the minute without any hustle or trouble.'

In spite of this glowing endorsement the instrument was troublesome; the operator's forearms and wrists rested on the table and cramps were common as the movements, solely of the fingers, were utterly restricted both in space and time. Of all telegraphic instruments this was the most troublesome for the operators.

Bell's Harmonic Telegraph

In a harmonium, a well-known keyed instrument, the tones are produced by thin tongues of brass or steel, 'vibrators', set in periodic motion and known also as 'free reeds'; reeds, because their principle is that of the shepherd's pipe free, because they never entirely close the openings, while those generally used in the organs, known as ' beating or striking reeds,' close the orifice at each pulsation. The harmonium used to be widely used in small churches and chapels.

Telegraphic lines, particularly if long, were costly to erect and expensive to maintain. As the demand in the 19th Century grew rapidly for many messages to be sent a 'fever' was on to send as many messages as possible. A premium was put on operators who could send and receive Morse rapidly but physiological constraints usually limited this to about 25 w.p.m.

Alexander Graham Bell was born in Edinburgh; both his father and grandfather had studied speech and elocution, Bell himself taught music and had a good sense of pitch. He thought that by using electrically maintained tuning forks the same single telegraphic line could be used to transmit perhaps six or eight messages. As a fork vibrated it made and broke an electrical contact, the vibration was sustained as with the trembler of an electric bell. Several such devices, each controlled by a Morse key, were to be connected to the same line; at the other end another set would respond. The experiments proved unsuccessful, the repeated pulses as a contact was made and broken interfered with the other forks at the far end.

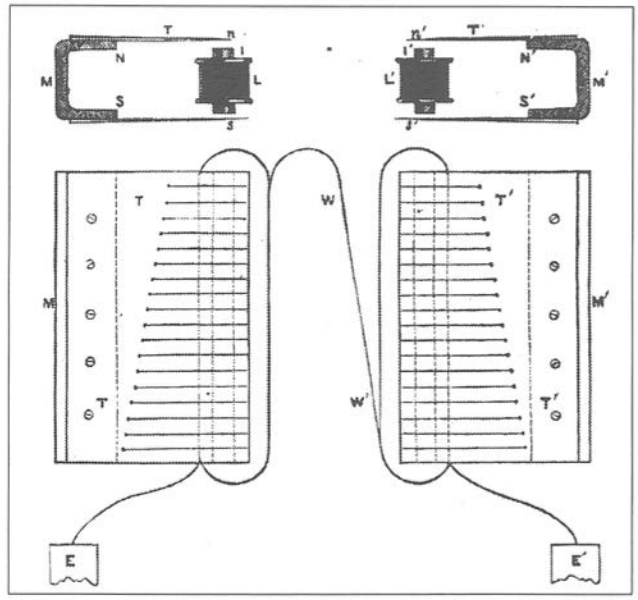


Figure16. Thick U shaped iron channels were magnetized and plates of thin steel, cut into teeth as in a musical box, were attached; each 'reed' resonates at one frequency, and so tunes could be reproduced. The electromagnet was elongated along the line of the strips of metal. Routledge (1899).

The deafness of old age, 'presbyacusis', due to imperfections of the auditory nerve affects the perception of the higher frequencies more than those of lower pitch. Without a hearing aid speech may be difficult to understand but music can often be well appreciated.

Bell[7] had another idea; it might adequately have reproduced musical tunes, but not speech

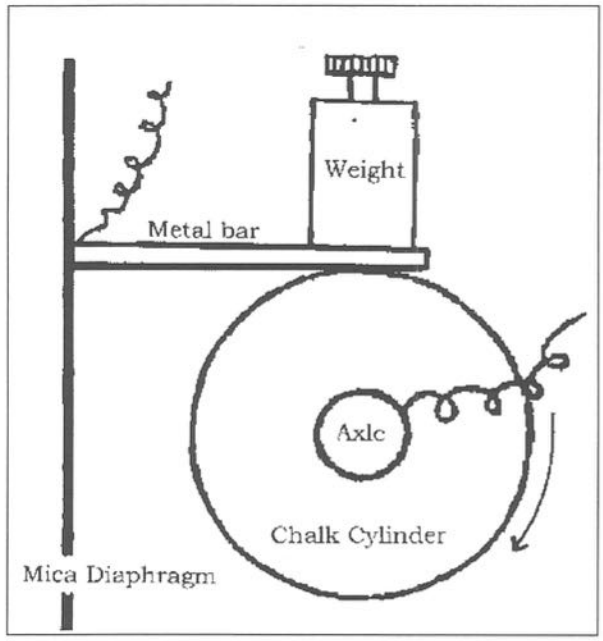


Figure 17. An early loudspeaker that depended on variations in the friction between the rotating chalk cylinder and the metal strip. Kent 1890.

(Figure 16). It could have picked up sounds from a nearby instrument or could have been played directly by striking the strips of metal. The auditory nerve contains thousands of fibers; a simple device with a limited number of resonators cannot reproduce the rapidly varying envelope of speech in consonants, particularly 'f', 's' and 't'. Bell was aware 'that when we sing a vowel-sound into a piano, while the pedal is depressed, the piano reproduces, not only the pitch, but approximately the quality of the vowel uttered; I saw that a similar effect[8] should be produced by the harp apparatus...'

Edison's Shouting Telephone

It was not necessary to be close to a telegraphic sounder to hear the clicks but before analogue amplifiers became available sounds through phones were soft and to hear a passage of music the instrument had to be held close to the ear throughout. Later audiences in London could listen to a new invention-

'Edison's most memorable achievement of all as a telephonic inventor, however, was in the production of his loud speaking, or as it is sometimes called with good reason, his Shouting Telephone. If merely regarded in its compound character, it is certainly remarkable, for its action is threefold, that is at once electrical, chemical and mechanical. It was for a long time one of the chief marvels on view at the Polytechnic Institution. There Professor Pepper lectured upon it, day after day, for months, to the delight and wonder of large audiences.

His assistant on these occasions, instead of being as usual present there in the lecture-room, was at a considerable distance from him at a house in Cavendish Square—the sole means of communication between them being a fine copper wire.' (Kent 1890).

The assistant in Cavendish Square, sang or played the cornet and was accompanied by a pianist in the lecture theatre, a wonder of the age. Pressing on a cylinder of chalk was a bar of metal attached to a mica diaphragm of four

inches diameter (Figure 17). The cylinder could be turned clockwise about a central metal axis by the operation of a handle. When this was done the diaphragm was pulled to the right because of the friction between the bar and the chalk. If the microphone was used the current running from the bar to the central axis reduced the friction and so for an instant the diaphragm sprung back; a series of currents generated the corresponding sounds (Figure 18).

The reduction of friction occurred because the chalk had previously been impregnated with caustic potash; it may have followed the production of tiny bubbles of gas. But the probable quality of the music can only be guessed.

Cadhill's Synthesizer

In 1897 Thaddeus Cadhill devised a 'Telharmonium or 'Dynamophone'; with 145 dynamos to generate alternating electrical currents at frequencies between 40 and 4,000 Hz. The instrument had the appearance of the engine room of a ship, weighed 200 tons, was 60 feet long and cost $200,000. Two musicians controlled keyboards but whilst they might play works of Bach, Chopin, Rossini and other classical composers the effects were horrible. One amp was passed to each subscriber on a network; the currents interfered with other telephones and sometimes fused the switching gear. The gigantic contraption filled the floor of "Telharmonic Hall" on 39th Street and Broadway, New York City.

Morse and Musicality

Rhythm is the essence of well sent telegraphic signaling using a straight key; to the initiated there is beauty in fine Morse, and with experience, the 'signature' of an operator can be recognized, distinguishing him from others. T. J. Smith, however, cautioned about the relevance of being able to play a musical instrument-

'A quick ear and a knowledge of "time" is another advantage; not necessarily an ear with a cultured or

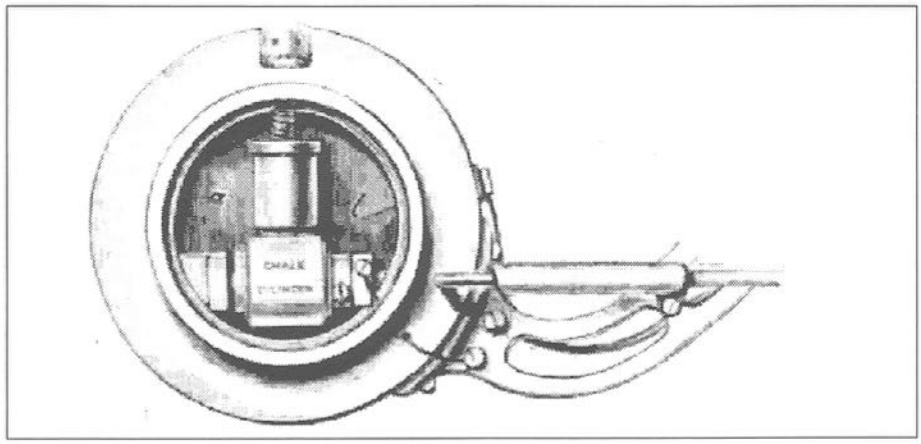


Figure18. Edison's loudspeaker (Illustrated London News, Nov. 1. 1879).

naturally musical sense. A musical ear is evidence, but by no means proof, that the owner may readily learn telegraphy. In the telegraphic world there are some surpassingly good musicians who are indifferent operators and still some exceedingly good operators who could not distinguish the difference in pitch between the sound of a falling log and the hum of a telegraph wire. It would be quite as reasonable to expect an artist to develop into a good marksman simply because, possessed of a trained eye with reference to form and color, as to guarantee that a musician would make a good operator.'

Harmonic Structure of Morse

When sounders were used for telegraphy the pattern will have been that of a percussion instrument, perhaps with some similarity to cymbals. As the metal was struck, a complex transient will have been set up that will have decayed rapidly.

Morse as used by radio amateurs is heard as a musical note that is modulated on and off as the characters are transmitted; it approximates to a sine wave which is switched on and off by square waves and thus will be expected to show overtones; the magnitude of which will vary with the abruptness of the switching. The American Radio Relay League (ARRL) recommendation is for rise and fall times of 5 ms. Tapes kindly sent me by members of 'MEGS' and others have been subjected to spectral analysis using a 'VV-REA~1' program to perform spectral analyses (Figures.19 & 20). With 'bug' keys the

Figure19. Spectrum (0-8,000 Hz) of dots and dashes sent using a straight key. The fundamental ('F') and the third harmonic ('3') can be detected. Acknowledgements to G4SSH

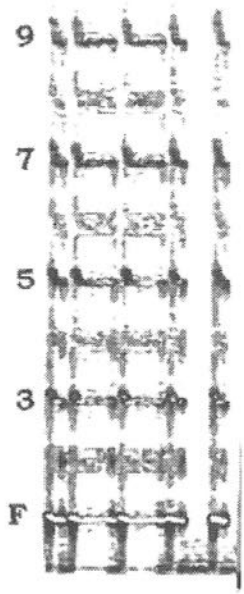


Figure 20. Spectrum (0-8,000 Hz) of dots and dashes sent using a Vibroflex key. The spectrum shows the fundamental, ('F') strong odd harmonics ('3', '5', '7' & '9') and also the even harmonics although the spread of frequencies in these is wider.

bouncing of the spring can lead to a spectrum much wider than is found with a good quality straight key.

Vibrations in Strings

The unsteady nature of the wind and its turbulence can excite oscillations in objects in its path as vortices form. In a tree there results a rustle from a light breeze; it is wide band noise and transients resulting from the differing mechanical properties of numerous leaves. That musical sounds could be produced by unaided wind has been long known in the East.

According to tradition King David's harp (kinnor) sounded at midnight when suspended over his couch in the north wind; and in an old Hindu poem, the Vina generated tones, proceeding by musical intervals, under the impulse of a breeze (Figure 21). The Chinese have kites with vibrating strings whilst Saint Dunstan of Canterbury in the 10th Century hung his harp in the wind.

Aeolian Harps

The name derives from Aeolus a Greek god appointed by Zeus to be 'keeper of the winds'. In the 16th Century an Aeolian harp, was devised. Rather slack strings of different thicknesses, tuned in unison, were fixed on a box provided with sounding holes. It is played not by human hands, but by the wind. The melodies and harmonies are 'chosen' from the randomness of nature. The sound resembles a full orchestra without the percussion.

The perception is that of both stringed and wind instruments playing, an improvisation of nature described as a 'Symphony of the Gods'. It was fashionable in romantic landscape gardening for an instrument to be fixed to a tree or a rustic summerhouse.

Alternatively a harp of appropriate size might be placed in a window (Figure22). The sound comes principally from harmonics rather than the low fundamental.

Wires Hums & Harps

In France and Prussia telegraphic wires were at first placed underground in tubes whilst in Britain and America they were normally overhead and a multiplicity in city centers could give rise to 'crossed lines' and unwanted noises (Figure 23). When telegraph wires were

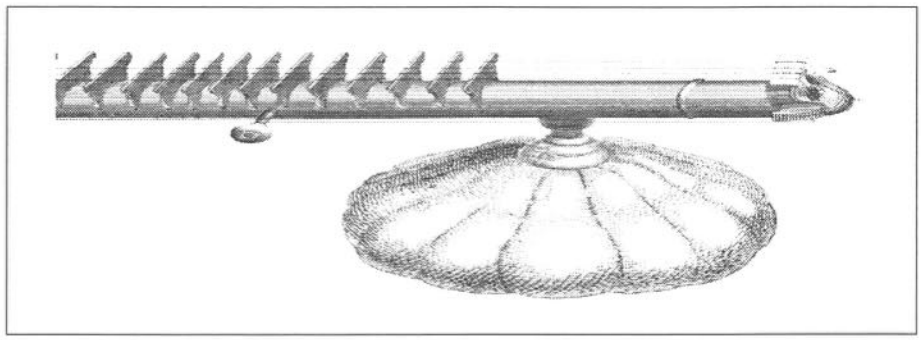


Figure 21. An Indian instrument, the strings are plucked, but it can be readily set into vibration by air currents.

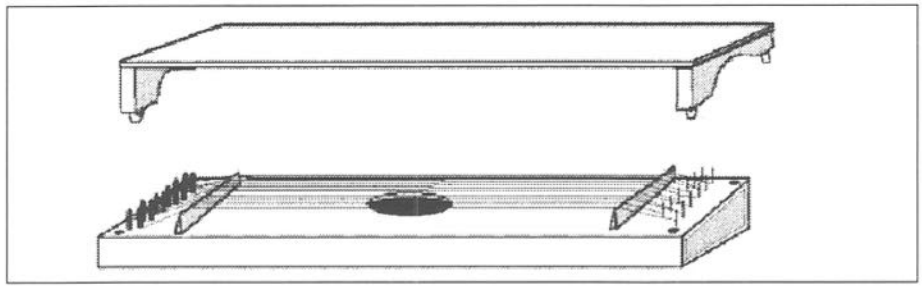


Figure 22. If an Aeolian harp is placed in a window with the sash lowered onto the cover the breeze flows over the strings. (Drawn by Bruce Taylor and available with some constructional details on Arthur Robb's Web page - http://www.argonet.co.uk/artlute/index.html)

first put up in London the associated sounds were inevitably noticed.

'There were those who believed that in some way voices went over the wires. Vibrations may be heard from lines in quiet localities today, and the wires of the District Company, which were often under considerable tension, would hum and sing in a breeze. In one instance they were attached to an old lady's house; the Company was informed that she tolerated the continual babble of voices in the wires but wished to make a very serious complaint about the disgraceful nature of the conversations.' (Durham 1959).

Long wires under low tension can generate hums that may be annoying particularly if a support resonates close to the fundamental of the wire. The device illustrated in Figure 24 may have worked through its added weight. This will have lowered the fundamental to be subsonic and tuned the resonance of the wire away from that of the supporting structure but Figure 24 suggests a rubber coupling.

Telegraph poles, once so common along roadsides are now rare except in remote rural areas (Figure 25). Between poles the wires of same length, tensed only by their own weights, form the strings of huge Aeolian Harps. The fundamental resonance is very low but an interesting, unique and pleasing sound may be heard when standing near the pole; again it is due to overtones, the fundamental will have contributed little or nothing.

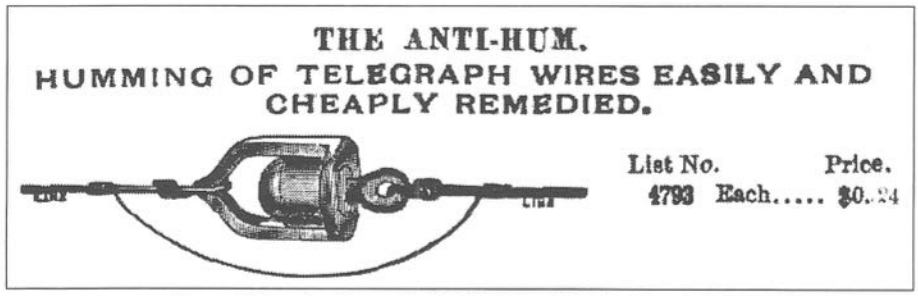


Figure 24. An advertisement of the Manhattan Electrical Supply Co.

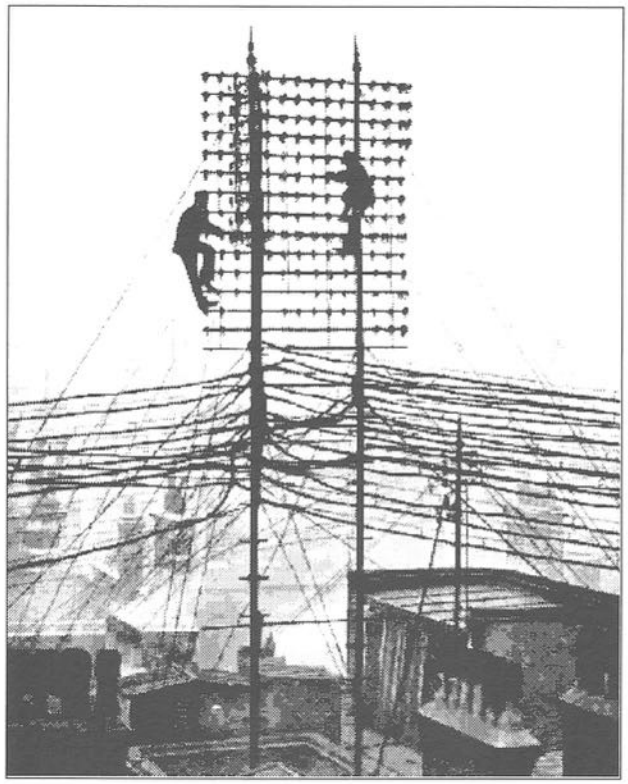


Figure 23. Wires in a city center naturally gave rise to sounds in high winds.

Figure 25. Less familiar now than in the twenties and thirties, a remote lonely road with no traffic is the best place to hear the unearthly sounds of the wires; they have nothing to do with the messages being sent!

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Acknowledgement

The author is indebted for useful suggestions to Dr. Arnold Myers, Director and Curator of the Collection of Historical Musical Instruments, Faculty of Music, Edinburgh University.

Notes

[1] Geoffrey.Walsh@ed.ac.uk
http://homepages.ed.ac.uk/gwalsh/

[2] 201 meters.

[3] A reference to Luigi Galvani the Italian physiologist who found that the muscles of a frog contracted when touched by two different metals in a moist environment. Galvanic electricity is of low voltage, and may be contrasted with static electricity which is of high voltage.

[4] Famed for the 'Wheatstone Bridge' for measuring electrical resistance.

[5] Wm. Fothergill Cooke when aged 19 accepted a commission in the army of the East India Company.. Because of religious customs anatomical dissection was taboo in India so the training of local surgeons was impeded; accordingly the Company had full sized anatomical models in papier mâché made in the Middlesex Hospital. Becoming unwell Cooke returned to Europe and in 1829, studied anatomy in Heidelberg, and made wax anatomical models that he sent to his father, a doctor in Durham. In Germany in 1836 he saw an early electrical telegraph and forthwith gave up the study of anatomy (Marland 1964, Baker 1976).

[6] Sirdar = Commander-in-Chief: Mazarine = rich blue colour

[7] It is uncertain whether the apparatus was constructed, but something similar led to he development of Bell's first telephone.

[8] Quoted from Marland (1964)

Whispers from the Past

A short story by Fred Alder

THE 6 PM SHIPPING FORECAST had predicted Storm Force 10 for Hebrides and the wind in Cumberland was thrashing the trees about in a black night. David had eaten too late and was now restless in bed so carefully got up so as not to wake the wife and crept downstairs. He glimpsed the clock on his radio desk: 0210 and switched on his amateur equipment. The TS870 winked into life, *HELLO* read the display as it went through the self-checks and then settled to its last frequency and settings 28 042.20 kHz centre frequency, 400 Hz bandwidth; just the hiss and hum of atmospherics.

He sat down in the chair and, rather than switch on the room light, lit the paraffin lamp on the desk. It gave a nice soft glow that filled the room. He closed the door and opened the window a little so the smell of paraffin would not wake the wife. The F-layer HF propagation predictions for October were on the desk, 2-4 am on 28 MHz was going to be quiet. South Africa might be open on the lower bands if anyone was about. It had been on Thursday evening for a while even on 28 MHz, when he last was on the air.

David wandered off into the kitchen and made a cup of peppermint tea to help with the indigestion, he walked back with the hot fragrant drink and sat in the armchair to sip it, happy to watch the gale blowing outside and watch the shadows of the lamp flickering in the draught. The tea had cooled nicely when he heard the signal coming in, too faint to read from where he was, against the gale. He sat at the desk, plugged in his headset, flicked to VOX in preparation to transmit and noted the time 0222. The signal had gone. David glimpsed at the evening paper on the stool and put the date in his log: 19th October. There it was again, repeated three times then silence.

The shiver ran down David's back and legs as he looked at his notepad 18/0222 X278. He stared at it as the signal came back again X278 X278 X278 silence. The morse tone had a slight warble on it, like the old KW2000B used to, and was clearly hand-keyed.

The pictures of childhood came flooding back. Since probably a toddler David had heard X278 in morse. For twenty-odd years he had no idea that was what his dad was whistling as he shaved in the morning. But he had memorised the tune even then. The fragrance of the Cussons shaving soap and the aroma of the Players smouldering in the ashtray next to the sink filled his mind as the warbling note came back X278 X278 X278.

Dad had been in the Royal Corps of Signals with the BEF in Normandy as a wireless operator. It had not been a nice experience for him and he never spoke about it or the evacuation from

Dunkerque, in the early days. Only later in life as David had begun to learn morse had the meaning of the tune become clear. X278 had been a call-sign in use by him. When all you are doing is sending encrypted 5-letter groups, those call-signs must have been all that stuck in the memory. In the days when morse was still used by the military David had heard similar call-signs on the lower HF bands sent, badly keyed by unknown operators on squawky transmitters. He had not heard them for a long time. Although Dad was gone these 20-odd years now, too soon and suddenly one autumn night, the memory of X278 had lingered on in David's head.

And here it was again X278 X278 X278. His hand was trembling. That was no amateur call-sign, his licence did not permit him to call it back. He did not dare use his paddle keyer, it would have sent out rubbish with that trembling, but in parallel he had the old straight key. Dad had given it to David when he was learning; it was the key he himself had learned on before the war. The signal came again X278 X278 X278.

David replied X278? K. The hair on his neck stood on end:

G4GMZ DE X278 QTC 1 QRV? K

How in *God's Name* does he know my call-sign? He panicked. That wasn't possible. David was so flabbergasted he had missed the first couple of words. He had written only 8 QTC 1 QRV? K. *I have one message, are your ready?*

His hair was itching and a cold clammy sweat covered his neck and hands. Almost robotically he sent back the invitation to send the message; "*sloppy procedure*" he thought later as he relived what had happened, but shaking as he was it was all he could do to send even that: R K.

The message came quite clearly, RST 428: CT X278 NR1 5 190228Z = G4GMZ = WBNNT RAPNV TMOJW WSVJA SKHJJ= AR R NR1? K

It was all he could do to send back: R NR1 K

David sat in a daze reading the text again and again particularly the last few words he had written:

R NR 1? K CU AGN SON E E

Surely he must have written down the word wrongly, *see you again soon dit dit*

CU AGN SN E E.

You don't mistakenly hear an O between an S and an N in such a common phrase; perhaps it was half way between SN and "SOON"?

The hiss on the headphones was troubling him. He unplugged them and went over to the armchair notebook and pen in hand, and sat down. The channel was silent now just atmospherics, he noted the frequency and times for his log: 28 042.2 kHz, 400 Hz, 19 0222-0235Z. He must have slumbered off.

When he woke it was nearly 0315. The gale had increased and the lamp was flickering. Had it been a dream?

No, there was the message and clear enough, the call-signs. And that mistake, it was still there too.

When he told his now aged Mother a few days later on the phone, she reminded him of something that had escaped his attention because of BST. The "*radio-clock*" was of course reading GMT. Dad had passed away on the 19th October just after 3 in the morning, Mother had said.

So that X278 transmission had been made exactly on the anniversary of his death all those years ago!

David felt sick. Maybe he ought

to try and get that message decrypted, whoever sent it. After all it might have been meant for someone else. He had broken the rules by inviting the sender..... - but how had the *sender* known David's call-sign?

David's career in government service had found him some interesting friends, and also put him occasionally in some pretty dodgy company, from whom he could expect little sympathy or affection. It was the friends however in whom he confided his story and they took the message away to some acquaintances in Gloucestershire. It was a couple of weeks later when one of them called on David, or rather on the M6 service area.

Apparently they had had a lot of trouble with such a small amount of ciphered text and it was only when they went back to look at the encryption methods being used in Normandy in Spring of 1940 that they got anywhere. Eventually they reduced it to four code words used at that time that could be interpreted as:

ENEMY BIRTHDAY TRANSPORT SOON

It did not make much sense to them, and X278 was not anything that they knew about. They thought it might have been a hoax from one of David's friends and that the decrypt was in fact no more than coincidental. Although even they were not convinced about that! Had David been teasing them? The pallor of David's face on that nice November morning however told them that perhaps he knew more about the meaning of the message than they did, and he had not made it up.

The funeral, like all those of a sudden victim of crime was a sombre affair. The bleak wet January day gave little comfort to the bereaved family or to the grey-overcoated strangers who seemed to know a lot about David. Some of them, but not many, knew what the codeword *BIRTHDAY* meant too. But nobody knew who X278 was, how he knew about *BIRTHDAY*, and how he could have coded and encrypted that message, unless he had been in Normandy .....

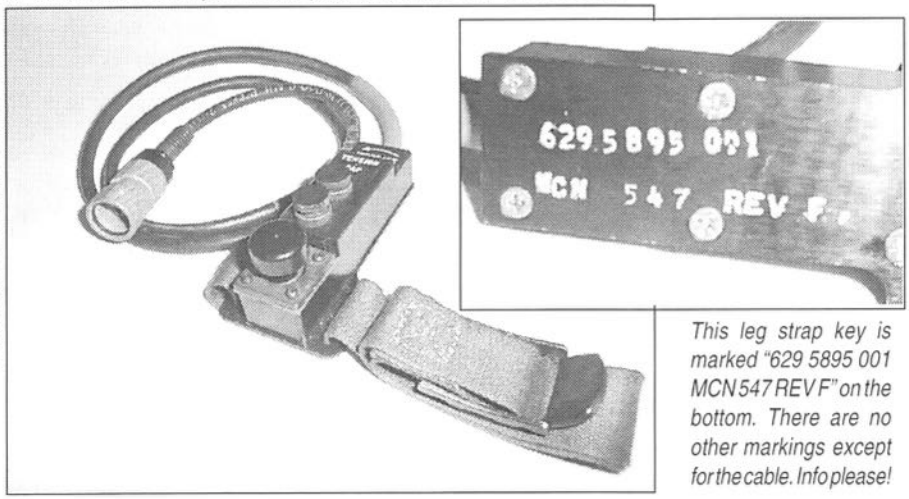
David must have knocked off the bomb resting under the front wheel-arch during his morning checks, the Scene of Crime Officer said. The explosion had blown him to pieces and the subsequent fire incinerated his remains and the family home. Only his partly melted wedding ring was found, and a couple of teeth by which he could be identified as the victim. Nobody was surprised when his wife, who had been away for the weekend, went off to New Zealand to settle near their daughter's family. She never really recovered from the tragedy, becoming almost a recluse. The sadness for the family must have been compounded when her belongings and a note were found on the seashore there, a year or so later.

If ever you are listening on 14 MHz you might hear a Foxy call-sign working from the Pyrenees. The locals have got used to the quiet, retired English couple David and Jenny, who came to join them a few years ago. David has taught a few of the neighbours' children about radio and morse and they occasionally have contacts with their daughter in New Zealand. He also spends some October nights listening on 28 042 kHz, but never hears anything. Occasionally the neighbours' children hear him whistling in morse, one of them reckons it is *X278* repeated in groups of three.... Bizarre! ***MM***

Info Please!

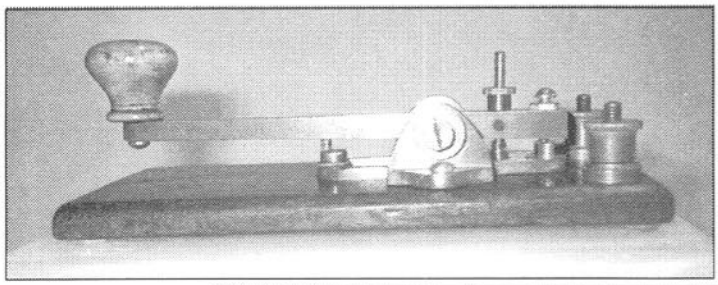
Readers are invited to contribute any additional information and stories, no matter how minor, to the Editor, Morsum Magnificat. There have been thousands of designs of keys & telegraphy instuments. Information will be lost unless it is compiled in one place and shared with other readers.

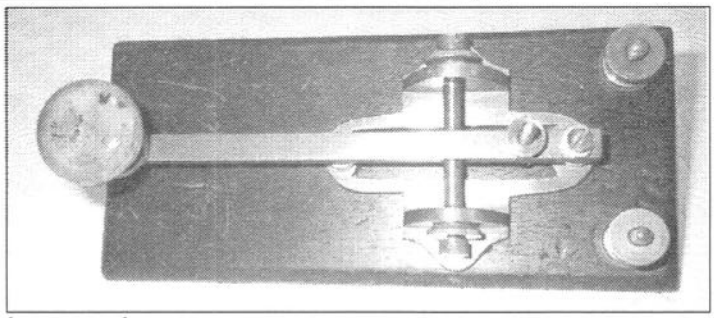
Photo/Collection: Chris Bisaillion, VE3CBK



This leg strap key is marked "629 5895 001 MCN 547 REV F" on the bottom. There are no other markings except for the cable. Info please!

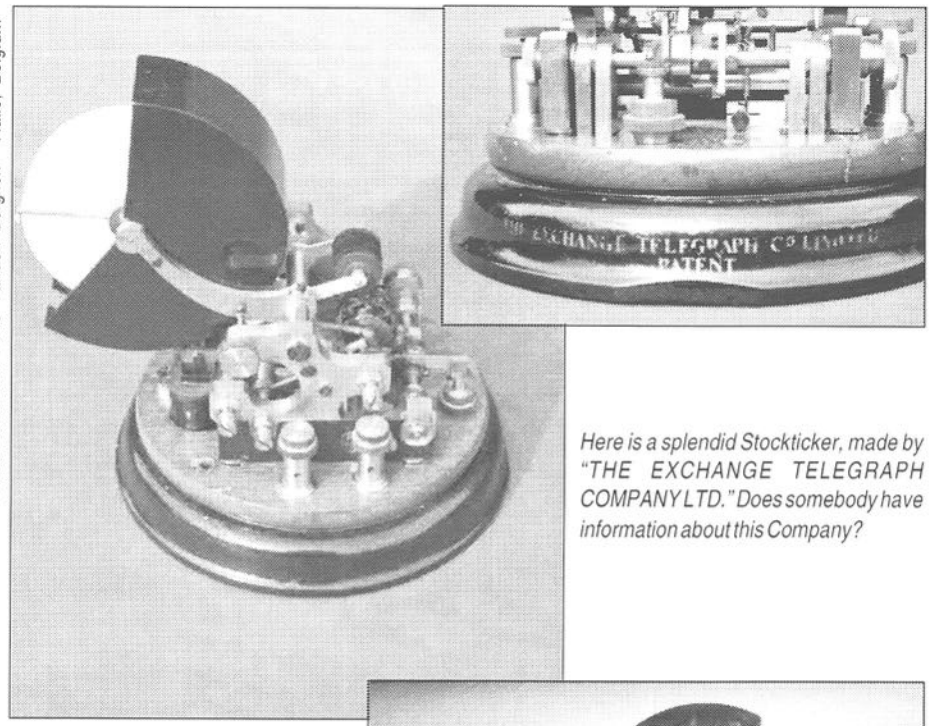
Photo/Collection: Jack Barker



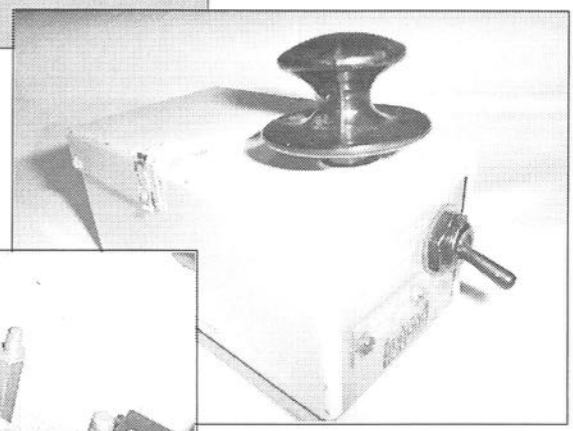


This unmarked brass key a thin mahogany base found at a flea market. Can anyone identify the design?

Photo/Collection: Fons Vanden Berghen - Halle, Belgium



Here is a splendid Stockticker, made by "THE EXCHANGE TELEGRAPH COMPANY LTD." Does somebody have information about this Company?



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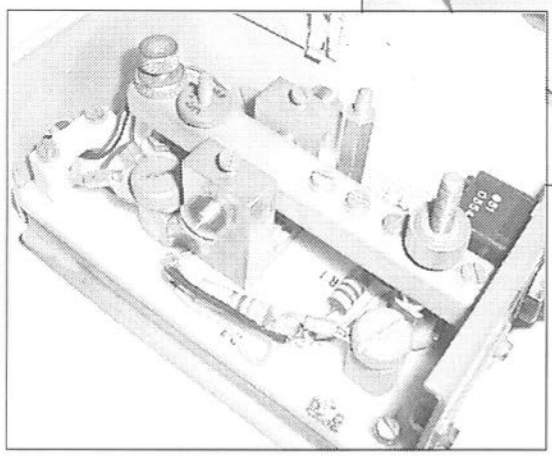

This key is marked "5820-AP164179 KEY MORSE PORTABLE". On a small separate plate it has "SERIAL NO. 062 WF". It looks similar to the Larger NATO Keys with the light blue/grey colour but any additional information would be welcome.

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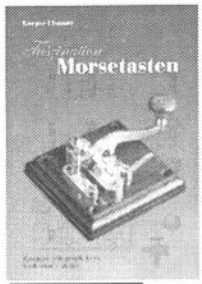

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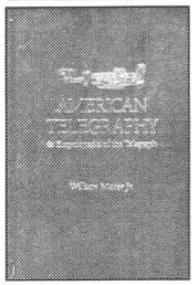

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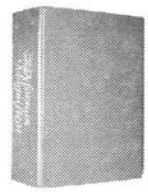

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FOR SALE & WANTED

R1155 RECEIVER: needs good home, converted to AC, can provide photo via email if required. I also have a receiver from a cable ship, roughly about the same size as the 1155 but heavier, offers, buyer to pay P&P. Mark Franklin. Tel :- +44 (0) 1452700701or
email: thefranklins@bt.com

FOR SALE: Morsum Magnificat nos 6, 9-11, 13-54, 56, 58, 60-76. 65 copies £125 o.n.o. including postage and packing. Geoff Newland, 32 The Grove, Winscombe, North Somerset BS25 1JH. Telephone (mobile) 07802 786564. E-mail: MM@GeoffNewland.co.uk

FOR SALE: Great Northern Telegraph Company (GNT) model No. 605 Morse key as described in MM59, page 53. (There is also a picture of the key in Keys, Keys, Keys on page 54.. The key has a long arm and a nice feel. Mint condition. £25. I have several of these keys for sale. Jon Hanson, GØFJT, 6 Daffodil Close, Abbeymead, Gloucester GL4 4AF. Tel: +44 (0) 1452 618437. Email: jonhanson@commspec.co.uk

FOR SALE: All issues of Morsum Magnificat from Issue 1. Also the special issue of Q & Z Codes in 1988. Most in mint condition. Buyer must collect or arrange carriage. Offers. F. R. Hamilton, G4IAV, 329 North Road, Atherton, M46 0RF. Tel: +44 (0)1 942 870954.

BOOK: "Radiotelegraph and Radiotelephone Codes, Prowords and Abbreviations" 3rd Edition (236pages), 610 gm, 1.5 lbs, now available. Probably the World's best compilation of this info now available. Q,X,Z Codes, 142 Phonetics, 24 Morse, 8 Needle codes. Myer, Phillips, 10, 11, 12, 13 and other codes. Much other info, abbreviations, procedures and methods. AU$ 25.00 + P&P. Post calc from Postcode 2480 using Internet: http://www.nor.com.au/community/sarc/phonetic.htm
John Alcorn, VK2JWA, 33 Spring St., LISMORE, NSW 2480, Australia. Email: VK2JWA@sarc.org.au Tel: +61-02-66215217

WANTED TO BUY: Telegraphic Code Books, as used to reduce the costs of telegrams by replacing common phrases

with codewords. Would be interested in both originals of photocopies. I am a hobbyist in Cryptography and am facinated in different ways data is and has been represented for different purposes (e.g. speed, economy, confidentiality etc.) Also interested in related items. Letters to Mark Darling, 132 Knowlands, Highworth, SN6 7NE, United Kingdom or e-mail: darling@patrol.i-way.co.uk

I AM A KEY COLLECTOR with over 300 different keys from 20 countries and have 50 keys available for swapping. Write to Henri Heraud, F6AUO, 9 Avenue de Bellevue, 91130 RIS ORANGIS, FRANCE.

EXCHANGE: I have MM magazines, issues 36-80 inc(45mags)to exchange for a Vibroplex double-paddle. Can collect/ deliver in UK. Phone Keith +44 (0)7946-663109.

WANTED TO BUY: Back issues of MM nos. 6, 9 to 22 inclusive. Also 1960s NATO Navy key (5805-99-580-8558). Please contact Stephen Parry, G4LJZ, E-mail: stephen@keying.co.uk

WANTED TO BUY: GPO Type 56 key and Marconi side-lever Morse key with brass hardware on a wooden base. Letters to: D. Johnson, W5FZ, 15514 Ensenada Drive, Houston, TX 77083-5008, USA. Or Email: w5fz@arrl.net

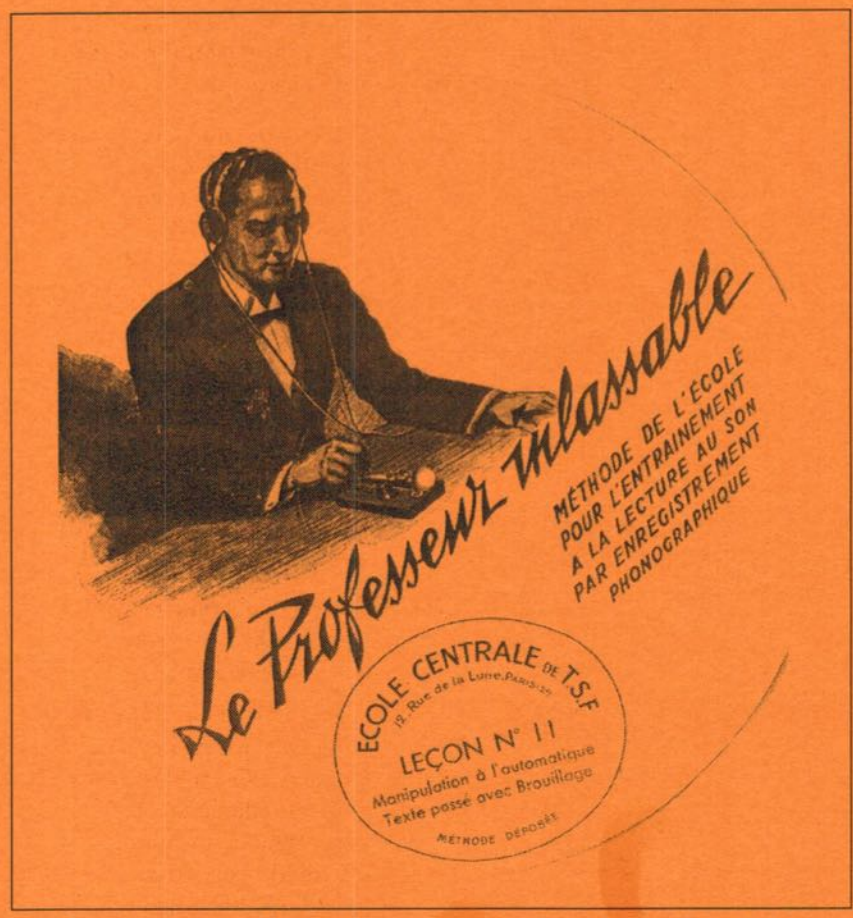
TEXTBOOKS WANTED: Handbook of Technical Instruction for Wireless Telegraphists, 1913 edition, by Hawkhead (Marconi Press). Plus the third (1923) edition by Hawkhead and Dowsett (The Wireless Press), and seventh (1942-44) edition by Dowsett and Williams (Iliffe). Also - Marine Radio Manual, c.1966, by Danielson and Mayoh (Newnes). A good price is offered, plus postage costs David Smith, ZL2BBB, PO Box 255, Hastings, New Zealand. dhs@clear.net.nz

WANTED: Back issues of Morsum Magnificat. Volumes 1 thru 23, 25, 27, 28 and 30 are needed. Please contact Dennis P. Skea, KC2CCZ, 25 Argent Drive, Poughkeepsie, New York 12603, USA. +1 (845) 298 - 0951
E-mail: KC2CCZ@arrl.net

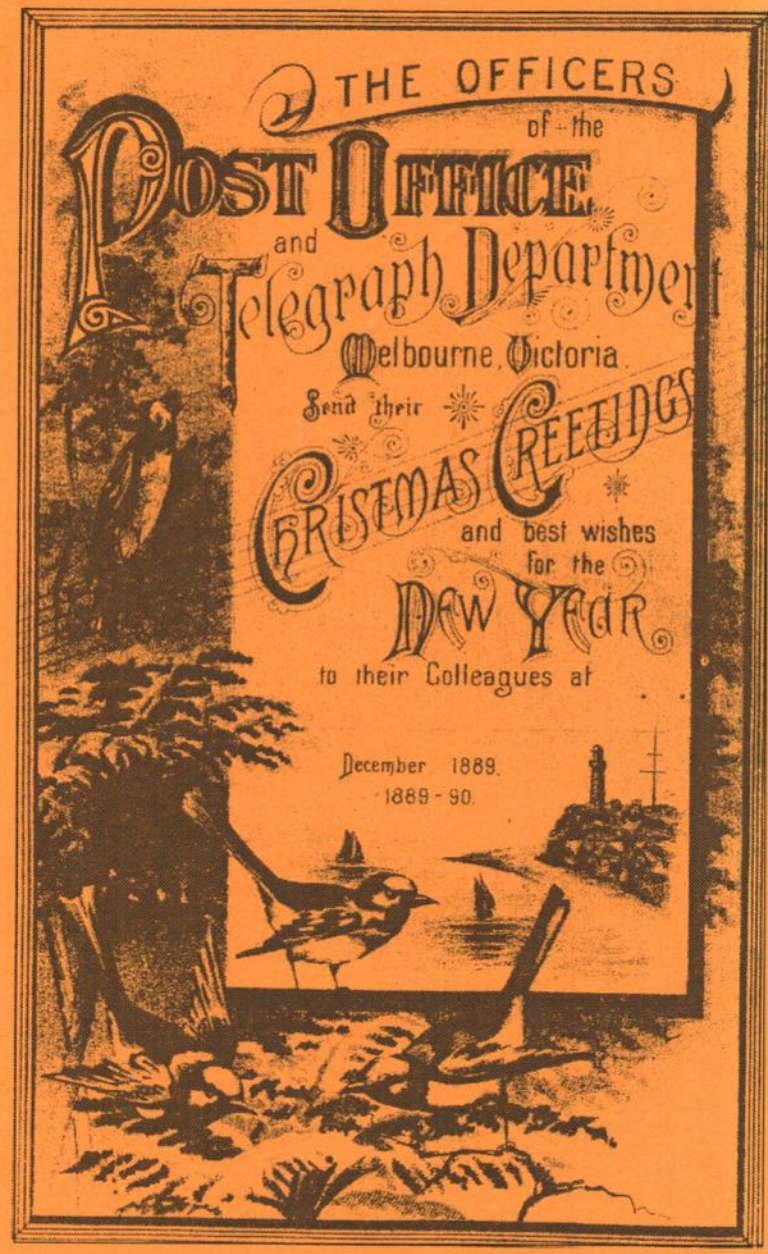
WANTED: The common tripod for a heliograph as in picture page 11 of MM Issue 79. Also still interested in (somewhat special) telegraphy apparatus. Swap or buy. Thanks! Fons Vanden Berghen, Lenniksesteenweg 462/22, B-15000 HALLE, Belgium. E-mail: fons.vandenberghen@pandora.be
www.faradic.net/~gsraven/fons_images/fons_museum.html

WANTED TO BUY: Old large commercial Morse key such as H. White 1918, or GPO double-current type keys, with or without the metal/metal-glass cover. Would consider exchanging my old Air Ministry Morse Key Type B1, Ref: 10F/7839 in as new condition. Letters to: D. Johnson W5FZ, 15514 Ensenada Drive, Houston, TX 77083-5008, Texas, USA. Or Email: fullerphone@yahoo.com

WANTED: Early paddles such as the Nikey, Autronic, Ham-key HK1 & HK2. Ray Bullock, 40 Little Harlescott Lane, Shrewsbury SY1 3PY, England. Tel: +44 (0) 1743 245896.



Cover of one of a set of 11 French Morse records from the Central School of Radio, Paris. "The Tireless Teacher" "School tutor for training ing in reading (Morse) using phonographic recording." This lesson provides practice in reading text through interference.



1889 Christmas card from the Officers of the Melbourne Telegraph Department.
(With thanks to Peter Nelson and Ted Jones).