Morsum Magnificat

The Morse Magazine
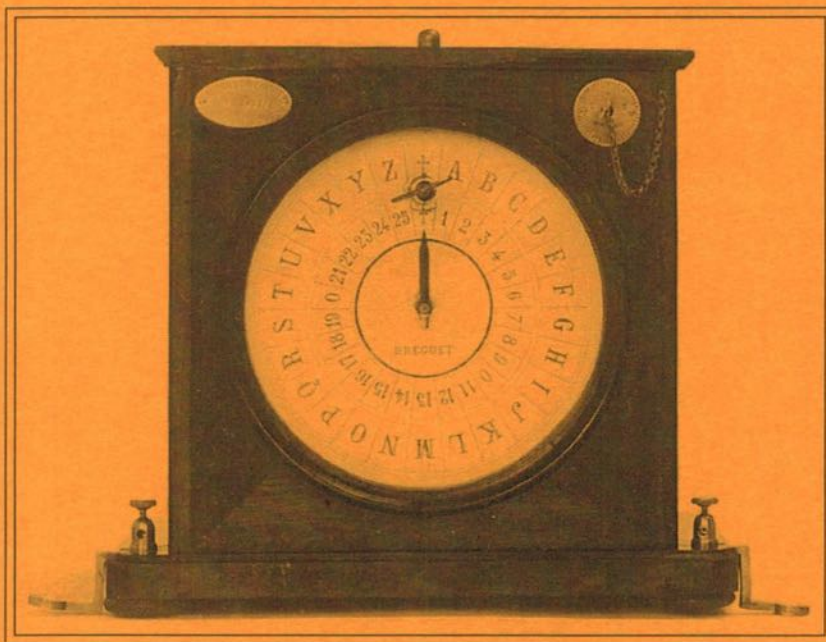
Bréguet Dial Telegraph

MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. Now published six times a year in Britain, 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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ON OUR FRONT COVER
Bréguet dial telegraph (France) 1850–1870.
Similar to Wheatstone's ABC (Britain) and Siemens' system in Germany.
Photo/Collection: Fons Vanden Berghen

Comment

I N THE LAST ISSUE OF *MM*, I spoke of my dismay at the proposal by electronics giant GEC-Marconi, that they should auction off the Marconi Company archives from the period 1896 to the end of World War II. Although some collectors had no doubt been looking forward to owning a unique piece of the history of radio, it was no surprise to find that many historians and collectors in Britain, in Italy, and around the world, were aghast at the very idea of splitting up such an important historical record.
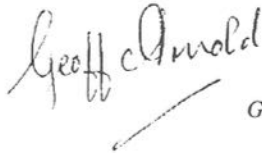
I am now pleased to be able to tell you that a statement released at the end of March announced that agreement in principle had been reached between GEC, the Science Museum, Essex County Council and Chelmsford Borough Council, which would keep the Marconi Collection intact and in the UK.

GEC will donate the collection, valued at £3 million, to the nation, subject to certain assurances of safe keeping and public access. Ownership of the Collection is planned to transfer to the Science Museum.

All or some of the objects in the Collection will be loaned by the Science Museum to Chelmsford Borough Council. The Science Museum will be responsible for conservation of the Collection, and will arrange the loan of objects to other museums of standing.

Construction is about to begin at Chelmsford on a new state-of-the-art Essex Record Office, which will form part of an Essex Centre. When completed, the archive will be housed there, together with the latest technology to make it accessible worldwide.

May I thank all those readers who, by letter and by fax, kept *MM* in touch with developments in this saga as reported in the national and local newspapers, and in the professional electronics press.

Geoff Arnold

G3GSR

Owing to pressure on space, we are sorry that Part 2 of Tony Smith's survey of Morse learning methods through the ages has had to be held over until our next issue

Contents

Adverts

News

RSGB Morse Test Service 11th Anniversary QSO Party

Following the successful 10th Anniversary celebrations of the RSGB Morse test service in 1996, when more than 10 000 on-air contacts were made by Special Event Stations operated by Morse test examiners, many hundreds of letters were received requesting that the occasion become an annual event.

To satisfy these requests, County Morse Testing Teams throughout the UK will again be on the air, during the 11th anniversary weekend of 10–11 May 1997, using the Special Event GB0 prefix followed by RSGB county code suffixes, as shown below. Additional stations operated by RSGB HQ, the Chief Morse Examiner and the Deputy Chief Morse Examiner will also be active in this event.

A Morse Test 11th Anniversary certificate will be available to any amateur who makes contact with 10 of the Special Event stations. The cost of the certificate is £2.00 (cheque or postal order made out to 'RSGB'), $5.00, or 6 IRCs. Applications with log extracts should be sent to the Chief Morse Examiner, Roy Clayton G4SSH, 9 Green Island, Irton, Scarborough, North Yorkshire YO12 4RN, England. QSL cards are not required to claim this award, which is also available to listeners.

Activity will be concentrated in the 80 and 40 metre bands, and in order to encourage newcomers to apply for the award each team will spend some time working QRS (slow speed) in the Novice CW section of the 80 metre band. The event is not a contest and examiners will be happy to reply at any preferred calling speed. There is no restriction on the type of Morse key used. All will be welcome, including keyboards. Just call in to say 'hello' in Morse and enjoy the friendship.

The following Special Event stations will be active in the Morse Test Anniversary QSO Party, 10–11 May 1997:

GB0CW	Chief Morse Examiner
GB0MTS	Deputy Chief Morse Examiner
GB0RS	RSGB HQ (Hertfordshire)
GB0ARM	Co. Armagh
GB0ATM	Co. Antrim
GB0CNL	Cornwall (Poldhu)
GB0DFD	Dyfed
GB0DHM	Co. Durham
GB0GDD	Gwynedd
GB0HLD	Highland
GB0IOW	Isle of Wight
GB0LCN	Lincolnshire
GB0LEC	Leicestershire
GB0LNH	Lancashire
GB0MSY	Merseyside
GB0NOR	Norfolk
GB0SCD	Strathclyde
GB0SFD	Staffordshire

GB0SPE	Shropshire
GB0SRY	Surrey
GB0SXW	Sussex West
GB0TWR	Tyne & Wear
GB0TYS	Tayside
GB0YSE	Yorkshire East
GB0YSN	Yorkshire North
GB0YSW	Yorkshire West

(Information from Roy Clayton G4SSH, Chief Morse Test Examiner)

World HST Championships 1997

As reported in MM50, the next IARU World High Speed Championships will be held in Sofia, Bulgaria on 6–10 October 1997. The following is a brief outline of the structure of the championships.

National teams participating in the championships, consist of up to twelve competitors in six categories as follows:

A – Up to two 'Junior Females' (age 20 years or less on 1 January in the year the Championships take place);

B – Up to two 'Junior Males' (age 20 years or less on 1 January in the year the Championships take place);

C – Up to two 'Females' (over 20 years of age on 1 January in the year the Championships take place);

D – Up to two 'Males' (over 20 years of age on 1 January in the year the Championships take place);

E – Up to two 'Senior Females' (age 40 years or over on 1 January in the year the championships take place).

F – Up to two 'Senior Males' (age 45 years or over on 1 January in the year the Championships take place);

The Championship tests are as follows:

(a) Reception of 5-letter groups for a period of one minute, with an initial speed of 100 marks (letters) per minute using the PARIS system.

(b) Reception of 5-figure groups for a period of one minute, with an initial speed of 150 marks (figures) per minute using the PARIS system.

(c) Transmission of 5-letter groups for a period of one minute, with the highest possible speed, and best possible accuracy, using the PARIS system.

(d) Transmission of 5-figure groups for a period of one minute, with the highest possible speed, and best possible accuracy, using the PARIS system.

(e) Reception of 5-character mixed text groups for a period of one minute, with an initial speed of 100 marks (characters) per minute using the PARIS system.

(f) Transmission of 5-character mixed text groups for a period of one minute, with the highest possible speed, and best possible accuracy, using the PARIS system.

(g) Radioamateur Practising Tests, using the RUFZ radio amateur callsign receiving program compiled by DL3DZZ and the PED Pile Up Trainer program compiled by JE3MAS.

The RUFZ Callsign Copying Program test is taken on IBM-compatible computers. Competitors make two attempts to receive 50 callsigns generated by the program, and the best attempt is taken as the competitor's entry. (See MM45 for a fuller explanation.)

The PED Pile Up Trainer Program test is taken on IBM-compatible computers. Competitors make as many contacts as possible in a period of five minutes. They are allowed two attempts,

and the best attempt is taken as the competitor's entry.

By now, national IARU societies should have publicised the HST world championships and invited interested CW operators to contact them.

It should be noted that the above is only a brief description of what is involved, extracted from the English language championship rules which have recently been rewritten to make them easier to understand. Copies of the full rules should now be available for prospective contestants from their own societies.

Readers of *MM* interested in high-speed telegraphy may like to note that in the event of any country not entering a national team in the championships, it is open to CW clubs or individuals to represent their countries, at their own expense, subject to the approval of their national society.

Who Sent *Morse Memories* Please?

Tony Smith has received a book *Morse Memories* by Peter H.R.G. Smith, from Australia, but does not know who sent it. Would the sender please contact Tony?

AGCW-DL QRP/QRP Party 1997

All licensed amateurs and SWLs in Europe are invited to participate in AGCW-DL's CW-only QRP/QRP Party to be held on May 1 from 1300 to 1900 UTC, on 3.510–3.560MHz and 7.010–7.040MHz.

Categories: A = 5 watts output maximum (or 10 watts input); B = 10 watts output maximum (or 20 watts input).

Call: CQ QRP. Exchange: RST+QSO-Nr/Category. Example: 579001/A.

Scoring: QSO with own country = 1 point; QSO with another country = 2 points. Double score for QSO with category A station. Each station may be logged only once per band. Use of keyboards or automatic readers is not permitted.

SWL-Logs: To be listed separately for each band. Must include callsigns of both stations heard, and at least one full report.

Multipliers: Each DXCC country = 1 multiplier point per band. Total score: QSO-points 80m x multipliers for 80m + QSO-points 40m x multipliers for 40m.

Logs: To be sent to Antonius Recker DL1YEX, Gustav-Mahler-Weg 3, D-48147 Münster, Germany.

Deadline: May 31.

Results: obtainable by sending a self-addressed envelope plus 1 x IRC.

(Information from Activity Group CW, Germany.)

Prestigious New Site for Museum of Communication

In 1973, Harry Matthews began to collect and restore old radio equipment. Writing in *Transmitting*, the journal of the Museum of Communication Foundation, he describes how he first used a spare six-foot table in the Electrical Engineering Department of the University of Edinburgh to display his early acquisitions.

"This table, then another, became filled... Groups, radio societies, even printmakers, came to visit in the evenings... An article in the Bulletin of 1978 reported that there were 14 six-foot tables now filled, with curtains round

the legs acting as stores. They didn't know of my other two stores!"

Harry describes how the collection continued to grow, making eleven different moves as its possessions increased to some 32 tonnes. These are now stored in several locations, including a large industrial unit where volunteers attend regular sessions to bring order to, and eventually catalogue, the entire collection.

The Museum of Communication Foundation was created in 1992, with Harry Matthews as its Honorary Life President. Its aim, like the museum itself, is the study, restoration, collection and exhibition of communications and information technology.

The very latest news from the Foundation is that a permanent exhibition of items from the collection opened in prestigious new accommodation at the Scottish Telecom 'World of Communications', Saltire Court, Edinburgh, on 22 March 1997. The exhibition covers both pre-electric and electric telegraphs, and proceeds through into the wireless age, from 'spark' to 'tranny', with appropriate exhibits along the way related to telegraphy, telephony, radio and TV in various applications.

The exhibition has been created by Gordon Lyall Associates, professional heritage planners and design consultants, in close co-operation with the Museum of Communication Foundation and Scottish Telecom. The Foundation provides the exhibits and background knowledge

Location of Saltire Court in the heart of Edinburgh
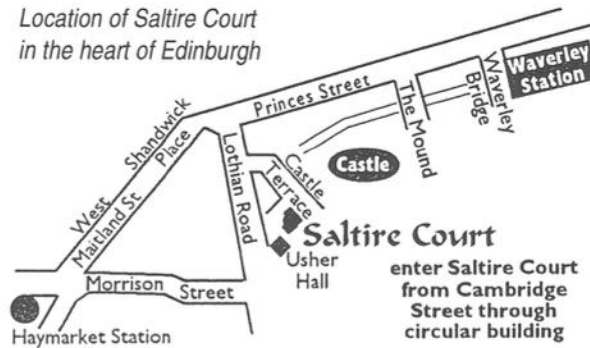
while Scottish Telecom provides the premises, staff and funding.

The Foundation welcomes new members, both those who wish to be actively involved in the work, and those who can only support the Foundation from afar. Annual subscription rates are Ordinary £10; Unwaged £5; Group £15.

Enquiries and applications for membership should be sent to the Membership Secretary, Museum of Communication Foundation, PO Box 12556, BO'NESS, EH51 9YX, Scotland. Cheques should be made payable to 'Museum of Communication Foundation'. Overseas supporters are very welcome. Write to the above address for subscription details.

'The World of Communications', which also relates to the modern world of global telecommunications, is open Tuesdays to Saturdays 10 a.m. to 5 p.m, (and Sundays in the summer season, 2 to 5 p.m), and admission is free. Enquiries, phone 0131-473 3939.

Helvetia Telegraphy Club

The callsign of the Helvetia Telegraphy Club (HTC) is HB9HC. The club puts out regular Morse training sessions each

Monday at 7 p.m. local time, on 3.574MHz ±QRM, at speeds from 8 to 28 wpm, followed by a short 'ZAP' which allows each participant a short QSO with the club station.

Information about the club is transmitted at 8 p.m. local time on the first Sunday of the month, on the same frequency, again followed by a ZAP.

HTC members are encouraged to be active, especially during the evenings, on the hour, on 3.574MHz, in order to contact each other. The club publishes an information Bulletin, *HTC-News*, two or three times a year in the German language.

(Information from EUCW Bulletin 1996/3)

Italian Manual of Radiotelegraphy

MM reader Carlo Amorati, I4ALU, is the author of a 160-page *Manuale di Radiotelegrafia*, published by Italy's national radio society Associazione Radioamatori Italiani (ARI), which has sold 15 000 copies in the last ten years.

It is not possible to review the book without a knowledge of Italian but it appears to be a well-presented comprehensive manual covering most aspects of amateur CW operating. It is something like the RSGB's *Amateur Radio Operating Manual*, except that its emphasis is entirely on CW.

It is fascinating to leaf through its pages to see so many familiar and identifiable subjects covered in a different language. There is also some limited material in English to assist Italian readers, reflecting the fact that so many amateur contacts are based on the English language. Associated with the manual are two Morse learning cassettes, and the cost of the book plus cassettes is L25 000 (about £10.00).

For further information about the book and its availability, contact Carlo Amorati I4ALU, Via Battistelli 10, 40122 Bologna, Italy.

Coherent CW Program Available

Version 2.0 of the coherent CW program 'PCW' is now available from Peter Lumb G3IRM, 2 Briarwood Avenue, Bury St. Edmunds, Suffolk IP33 3QF.

Peter can supply the shareware version and asks for a contribution of £1.00 to cover the cost of the disk, packing and first class postage.

There will be an introductory article on coherent CW by Peter Lumb in the next issue of *MM*.

Variplex Bug Speed Adjuster

A photograph on page 40 of MM50 depicts the Vari-Speed, a device marketed briefly in 1954 which allows a bug operator to vary sending speed quickly. The photo reminded Bob Betts, N1KPR, that a few years ago he made a modified version of this device to help him learn to manipulate his own Vibroplex. He also made a few for friends and acquaintances and dubbed the revised design the 'Variplex'.

The Vari-Speed had a spring loaded arm, enabling it to be flicked to different positions for different speeds. Bob was a little concerned that the vibrations of the weight would cause the adjustment to 'creep' to another position, so he replaced the spring controlled adjustment with a fixed finger screw, although users

could insert an appropriate spring to revert to the original concept if they wished. He claims this has resulted in a more secure design at less cost, and that in practice on-air speed changes are possible quickly and easily in seconds.

Bob also read Paul Bock's article on the Slo-Bug in MM50 (p.46), and wrote to *MM* "All this business about slowing down bug speed has re-stirred the emotions and great satisfaction I experienced when I first mastered the bug at slow speed. Consequently, I have decided to make these devices available again, on a limited basis. However, because they are completely hand made, one at a time, on a per-order basis, they won't be as inexpensive as I would like.

"If *MM* readers are interested in obtaining a Variplex, they may be obtained from: RWB/CG, 8 Little Fawn Drive, Shelton, CT 06484-2212, USA. The cost is $20.00 each (US Dollars or funds drawn on a US bank), plus $3.00 for Priority Mail in the US and $7.00 Air Mail elsewhere. The device is made of solid brass with a high polish finish. As the existing pendulum weight may be used with the Variplex, none is supplied at this price."

The prototype Variplex sent by Bob to *MM* will fit only round-shaft models. It may be advisable to contact him to confirm that he can provide a Variplex for a particular type of bug before sending an order.

New Morse Column in TCA

In its February 1997 issue, *The Canadian Amateur* journal of RAC (Radio Amateurs of Canada), launched a new bi-monthly Morse column, 'CW Today', authored by Larry Kayser VA3LK.

Introducing the new column, TCA editor Rob Ludlow VE3YE writes: "Just as there are other columns on other modes and operating preferences, this offering will deal with CW in a positive light as a long-standing, legitimate and widely used mode, much loved and enjoyed by its practitioners... If you like CW or want to know more about why others do, we hope you will read and enjoy 'CW Today'".

'THE MILL' Available as Shareware

In MM41 (p.15), we described 'The Mill', an intriguing computer program by Jim Farrior, W4FOK, which teaches both International (CW) and American Morse and contains features to please Morse enthusiasts at all experience levels. Now, new features have been added which uniquely classify the program as 'Morse Heritage Software'.

'The Mill' must be installed and run from a true DOS prompt. With American Morse, the program's simulated sounder can be selected, or the serial port output can be used with a simple driver (circuit provided) to operate an actual sounder if the user has one. CW tone output is provided by the computer's speaker, and the serial port output can be used to key a transceiver or other device.

The MAIN MENU permits the selection of the various functions and modes of operation. OPERATIONAL NOTES describe the program and provide information about learning and using telegraphy. The entire contents of Bill Pierpont's book, *The Art and Skill of Radio-Telegraphy* are also provided.

A Defaults Screen permits the program to be set up for the user's personal requirements. The program's two primary Modes, KEYBOARD MODE, and CODE PRACTICE MODE can also be selected. The Keyboard Mode features an overprinting buffer. The text scrolls from a simulation of a 'mill', from which the program gets its name. Text files can be sent, and also created. The program can also be used as an excellent telegraphic keyboard for 'on the air' operation.

Code Practice Mode provides access to the program's teaching and practice features, including random letters; random groups; random words selected from a selected file, and the sending of ASCII text files, of which many are provided and others can be imported. When sending files for code practice, the user has the option of using Farnsworth Sending and Incremental Speed Increase, which alone or together are particularly powerful learning tools.

Also available are new and interesting features such as 'Copy Code by Mill', 'Copy Inked Slip by Mill', 'Copy Navy Signal Lamp', and 'Operator Dialogue.'

Developing and distributing 'The Mill' has been a hobby activity for Jim, and his primary interest in releasing the program as shareware is not for financial gain, but to receive feedback and to make the program available to a greater number of people who share his interest in telegraphy. The program contains a shareware notice asking those who want to continue using it to remit a stated modest amount or, instead, to distribute at least five copies of the program to others by disk or e-mail.

Shareware copies of 'The Mill' can be obtained by e-mail from Jim Farrior at w4fok@net-magic.net. If you have a PC, but no e-mail capability, ask a friend having this facility to obtain a copy for you.

Alternatively, send a formatted HD disk together with a stamped addressed envelope for its return to Tony Smith, 13 Morley Road, Sheringham, Norfolk NR26 8JE, England, or to Jim Farrior at 1232 Harrison Point Trail, Fernandina Beach, FL 32034, USA. All who receive 'The Mill', from any source, may distribute as many copies as they wish. The program contains e-mail instructions, and a feature for cloning program installation disks.

Titanic Morse Key Type Confirmed

Shortly after MM50 went to press, another recent book about the *Titanic* was discovered on sale. This contains a reproduction of the famous photograph of the radio room, which has obviously been heavily computer-processed to reveal more of the detail in the shadows. In this photograph, it can be seen that the Morse keys fitted were indeed of the type pictured on page 28 of MM50.

The photo-credits in the book state that the original of the photograph is now in the Father Brown SJ Collection, and we are endeavouring to obtain a copy for reproduction in a future *Morsum Magnificat*.

Morse is Not Dead

In *The World Wireless Beacon*, Newsletter of the Society of Wireless Pioneers, March 1997, Ellis H. Maris, Jr,

W3PDK, Radio Officer on the Research Vessel *Knorr*/KCEJ (a US Navy ship operated by the Woods Hole Oceanographic Institution), reports on a recent two-year scientific voyage around the Indian Ocean. The *Knorr* is the ship used by Dr Robert Ballard when he first discovered the wreckage of the *Titanic* in 1985.

He writes: "We have just returned from a two-year voyage which took us through the Mediterranean, the Red Sea, to Fremantle Australia. Thence we criss-crossed the Indian Ocean many times, stopping at Mombasa, Port Louis, Matrah, Colombo, Singapore, Dampier, Durban and Cape Town. The final leg was from Barbados, via the Azores, to Woods Hole.

"In that time, contrary to public opinion, I must say that Morse is NOT DEAD. On the present leg, in the Atlantic Ocean. I have logged dozens of USA ship callsigns on 500kHz, and communicated with several of them.

"For myself, I have used CW a fair amount. It was necessary in Auckland, New Zealand, if you wanted to get free radio pratique for that port. Many times I used CW when reporting to the surveillance systems of Australia and New Zealand.

"I don't know what all these people are going to do when full GMDSS is implemented in 1999. Just because the US Navy and the US Coast Guard don't want to use Morse, doesn't mean that the rest of the world has given it up. Incidentally, some of the best CW I have heard is from the Russian ships. Those guys really fly! Some shore stations of the world are really sloppy CW ops, but a great many are really sharp operators.

"I am sad to say that the life of the R/O, as we have known it, is about to fade into oblivion. How unfortunate! I wonder when this thing will come 'full circle' again, and the powers-that-be find it necessary to restore the telegraph requirement.

"I understand that one of the popular movies in America (last) July Fourth was called *Independence Day*. Apparently, in the final scenes, Morse code 'saves the world'. If in the decades to come no-one is learning the code, they will have to rewrite the ending to that film!"

The Mercurians

The Society for the History of Technology (SHOT) was formed in 1958 to encourage the study and teaching of the history of technology and its relations with society and culture. It is a non-profit, independent, interdisciplinary organisation, concerned not only with the history of technological devices and processes, but also with the relations of technology to politics, economics, labour, business, the environment, public policy, science, and the arts.

It currently has some 3300 individual and institutional members around the world, including academic historians and museum curators, engineers and scientists, anthropologists, librarians, political scientists and economists – in short, people from many disciplines and various walks of life.

SHOT special interest groups (SIGs) connect members who share a specific interest or research focus. Of possible interest to readers of *MM* is the
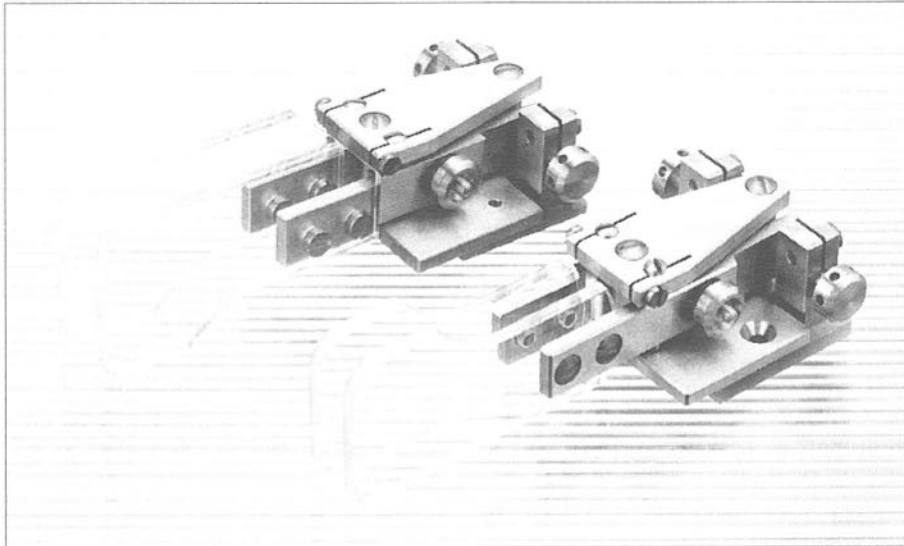
The new Schurr keys from the QRP Component Company

Mercurians (Communications Technologies) SIG, which began meeting in 1986 for the purpose of generating networks among people working in the history of communication technologies. The group publishes a semi-annual newsletter, *Antenna*; meets at the annual SHOT conference; and organises sessions at the conference.

Antenna serves both as a clearing house for readers and an informal forum for their ideas, publishing short essays on members' work, book reviews, and information about conferences, museums, publications, archives, funding, etc.

Whilst the Mercurians operate within the Society for the History of Technology, about one third of its members are not SHOT members. Membership simply entails subscribing to the newsletter (two-year dues are $5 in the US, $6 for delivery to Mexico and Canada, and $8 for international delivery). Any-

one wishing to subscribe to *Antenna* should send a check made out to SHOT, in the above amounts, in US dollars to: Pamela W. Laird, PO Box 6972, Denver, CO 80206, USA.

For more information about SHOT write or telephone Lindy Biggs, SHOT Secretary, at: Department of History, Auburn University, Auburn, Alabama 6849-3270, USA. Tel (334) 844-6645
; Fax (334) 844-6673; E-mail biggslb@mail.auburn.edu

Further information is also available on the SHOT homepage at http://www.auburn.edu/shot/

More Keys

The QRP Component Company has widened its stock range of Schurr hand-crafted Morse keys and paddles. The new additions *(see photo above)* are high-performance, twin-level paddle mechanisms offered in two versions:

Model A for the DIYer, to mount on a base of choice, or to build into a keyer. This is priced at £79.75 plus carriage (£5 in UK).

Model B is a direct replacement for Samson keyer paddles from ETM 5 onwards, and is priced at £74.95 plus carriage (£5 in UK).

Interested readers are invited to send an SAE or IRC to The QRP Component Company, PO Box 88, Haslemere GU27 2RF, England, for further information on these or any other keys from their stock range of Bencher, DK1WE, Jones, Kent and Swedish Pump products.

Solenoids

Miniature solenoids for the W4FOK solenoid sounder offered in MM50 (p.5) have been sent to the following readers:

David Dunn
Albert Heyes
Frederick L. Kelley
Z. Nilski
Fons Vanden Berghen

Our thanks go to Dan Keen K6DZ who provided these solenoids free of charge for *MM* readers. There are still a few left and if further requests are received by Tony Smith they will be distributed on a 'first come, first served, basis.' The sounders made up with these solenoids provide a very reasonable substitute for the real instrument, and can be used with Jim Farrior's Morse program, 'The Mill', described on page 7 of this issue of *MM*.

Morse Skill Receiving Award by JARL

The Japanese Amateur Radio League has established a new Morse code receiving skill award in two different areas of skill: Japanese and European characters, and European characters only. The first tests were held on 16 March 1997.

The award, which is unrelated to the amateur radio Morse tests, has nine degrees of proficiency, following the Japanese traditional way of ranking Judo and Karate:

Class	WPM	Exam Length
Master	36	5 minutes
5 Dan	32	5 minutes
4 Dan	28	5 minutes
3 Dan	24	5 minutes
2 Dan	22	5 minutes
Shodan	18	3 minutes
1 Kyu	12	3 minutes
2 Kyu	9	2 minutes
3 Kyu	5	2 minutes

The regular Japanese Morse tests for amateur radio licences require 5 wpm (Third Class), 9 wpm (Second Class) and both 12 wpm European/10 wpm Japanese language (First class).

(Information from W5YI Report)

We boobed!

The typesetting gremlins were at work in a couple of places in MM50!

On page 30, in line 9, '200' should of course read '120', being double the quoted 60Hz alternator output frequency.

On page 44, under 'How to Read Ads', the translation of 'First reasonable offer' should read 'waiting for one **of** the Rockefellers to call.'

Luckily, the correct meaning of both remarks was fairly obvious, but we offer apologies to anyone who was confused as a result.   *TS/GCA*

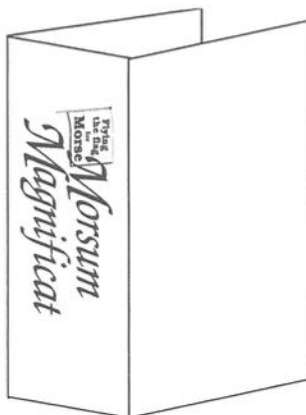## Short Break

Baseball by Morse

"Most of us couldn't afford radios back then in the thirties when I was growing up, so we'd sit there (on the sidewalk across from the Illinois Central ticket office) and wait for the telegraph operator in St Louis to telegraph the innings in the baseball game. 'Two balls, two strikes. Uh-oh. They got a man on base.' This is how we used to listen to baseball, by Morse code."

(Sonny Payne, radio announcer and jazz bassist, on life in Helena, Arkansas. From Deep Blues *by Robert Palmer, pub. Macmillan.)*

Contributed by Stan Barr G0CLV

Danish Watchmaker Created the Chinese Morse System

*by Kurt Jacobsen**

WHEN the Great Northern Telegraph Company landed its first telegraph cable in China in 1870, the Company was well advanced in developing a system making it possible to convert Chinese ideograms to Morse and to telegraph in Chinese.

The system was not just significant for the development of the telegraph in China. Its contribution was felt almost 100 years later when the Chinese first started using personal computers.

The precise details of the creation of the Chinese Morse system have been unknown hitherto, enabling a Frenchman to take the credit. The Company's archives have now revealed, however, that it was a Dane, Hans Schjellerup, who developed the basic system for the first Chinese telegraph book which Great Northern printed in 1871.

Chinese Request

It was at the request of the Secretary of a Chinese diplomatic delegation which was in Copenhagen in October 1869, that the founder of Great Northern, C.F. Tietgen, ordered a start to be made on developing the Chinese Morse system. The leader of the delegation was the former American ambassador to Peking, Anson Burlingame. His task was to in-

Hans Schjellerup, who developed the basic system for the first Chinese telegraph book printed by Great Northern in 1871

* Kurt Jacobsen, PhD, is assistant professor at the Department of History, University of Copenhagen, Denmark..

form the American and West European governments on Chinese attitudes to Western style modernisation in China, including the introduction of telegraphy.

Already in September 1868, Tietgen had been in touch with the delegation when it was in London. When it came to Copenhagen a year later, he met Anson Burlingame to discuss his plans for a trans-Siberian telegraph link to China. Burlingame's reaction was positive and it was on this occasion that the delegation's Secretary, Liavy Brown, proposed that Tietgen should develop a system so that the Chinese could telegraph without English translation.

Using Morse, it was only possible to transmit 30 letters, but any number could be sent. Chinese contains more than 50 000 different ideograms and even though the most commonly used of these number only some 6–7000, it would be necessary to develop a special Chinese Morse system.

An additional factor was that the Chinese did not all speak the same language. A Chinese speaking Mandarin would not be able to understand another Chinese speaking Cantonese. The written language is, however, the same so they could read and understand each other's ideograms. A Chinese Morse system would thus mean that Chinese could telegraph directly to each other irrespective of what local language they spoke.

Hans Schjellerup – Watchmaker, Astronomer and Linguist

Tietgen asked the Dane, Hans Schjellerup, to solve the problem. Schjellerup was a master watchmaker from Odense who, with the help of the Danish scien-

tist, H.C. Ørsted, was admitted to the Technical University in Copenhagen in 1848.

After he had graduated in mechanics, Schjellerup became an astronomer, initially at Rundetårn and subsequently at the Østre Vold Observatory in Copenhagen. In 1856 he gained his Doctorate at the University of Jena, and in 1865 he became a Professor. In addition to his work on astronomy, he also studied various difficult languages, especially Arabic and Chinese, as evidenced by several treatises on the history of astronomy and two Chinese encyclopaedias.

Schjellerup's scientific background and linguistic abilities were an ideal combination. On 19 April 1870, he sent Tietgen a draft of his proposed Chinese Telegraph Dictionary. The draft consisted of two pages with 260 Chinese ideograms 'arranged in the same manner as in the Chinese dictionaries so that it would be simple for a native to use'.

The Basic Concept

Schjellerup's idea was to allocate numbers to the Chinese ideograms which could then be telegraphed. At the receiving station, the numbers could be decoded so that the addressee received his telegram in Chinese. The dictionary was to include 5454 ideograms in all, arranged on the basis of 214 special radical characters in Chinese. These, he explained, formed the key required to be able to look words up.

Tietgen immediately sent Schjellerup's draft to Liavy Brown in Berlin for an assessment. Brown's response was positive and appreciative of the number-based system and the Danish

astronomer's linguistic abilities. He was, however, unable to give a definitive assessment – partly because he was American and partly because he did not know very much about telegraphy.

The response was encouraging for Tietgen who, on 1 August 1870, sent Schjellerup's draft to Shanghai with one of his trusted assistants so that the dictionary could be completed in China with the assistance of Chinese nationals and sinologists. What Tietgen did not know, however, was that work was also being done on another Chinese telegraph dictionary in Shanghai at the same time.

A French Port Captain in Shanghai

The manager in charge of Great Northern's establishment in East Asia, Edouard Suenson, had arrived in Shanghai at the beginning of June 1870. He contacted a Frenchman, M.S.A. Viguier, who was the Captain of the Port, as he needed assistance in landing the Danish telegraph cables, and became aware that Viguier was also in the process of developing a Chinese telegraph system.

The Frenchman also based his system on the 214 Chinese radical characters, but unlike Schjellerup's number-based system, he had organised the Chinese ideograms in tabular form, so that they had vertical and horizontal co-ordinates, like the notational system in chess. In a letter to Tietgen on June 28, Suenson reported on Viguier's system, but because of postal delays, Tietgen did not receive the letter until August 25, by which time Schjellerup's draft had long since been sent to Shanghai.

Suenson received Schjellerup's draft at the beginning of October 1870. He asked several Chinese businessmen to assess the two systems and on this basis, decided to opt for Schjellerup's number-based system as the core principle but arranged in accordance with Viguier's tabular system which was useful for its clarity.

The Telegraph's Breakthrough in China

Suenson then left work on the dictionary to Viguier, who also invented a primitive printing device for sending and receiving telegrams in Chinese. The device consisted of a large number of stamps – one for each of the dictionary's ideograms, arranged in boxes.

The Chinese ideogram was engraved on one end of the stamp, and at the other end was the corresponding number in Schjellerup's system. By turning the stamps, it was possible to code and decode the Chinese ideograms and numbers.

Viguier started work in December 1870 and early in May 1871, the dictionary and stamp device were ready. On April 18, Great Northern opened the telegraph link between Shanghai and Hong Kong, and it was now time to let the Chinese try out the telegraph: 'One has to let them have proof in their hands', as Suenson wrote to Tietgen.

In the middle of May, some Chinese businessmen in Shanghai were thus able to send greetings in Chinese to Hong Kong, from where there was soon a response – also in Chinese. The breakthrough came when a Chinese merchant, during a demonstration of the telegraph between Shanghai and Hong Kong, used the new communications technology to

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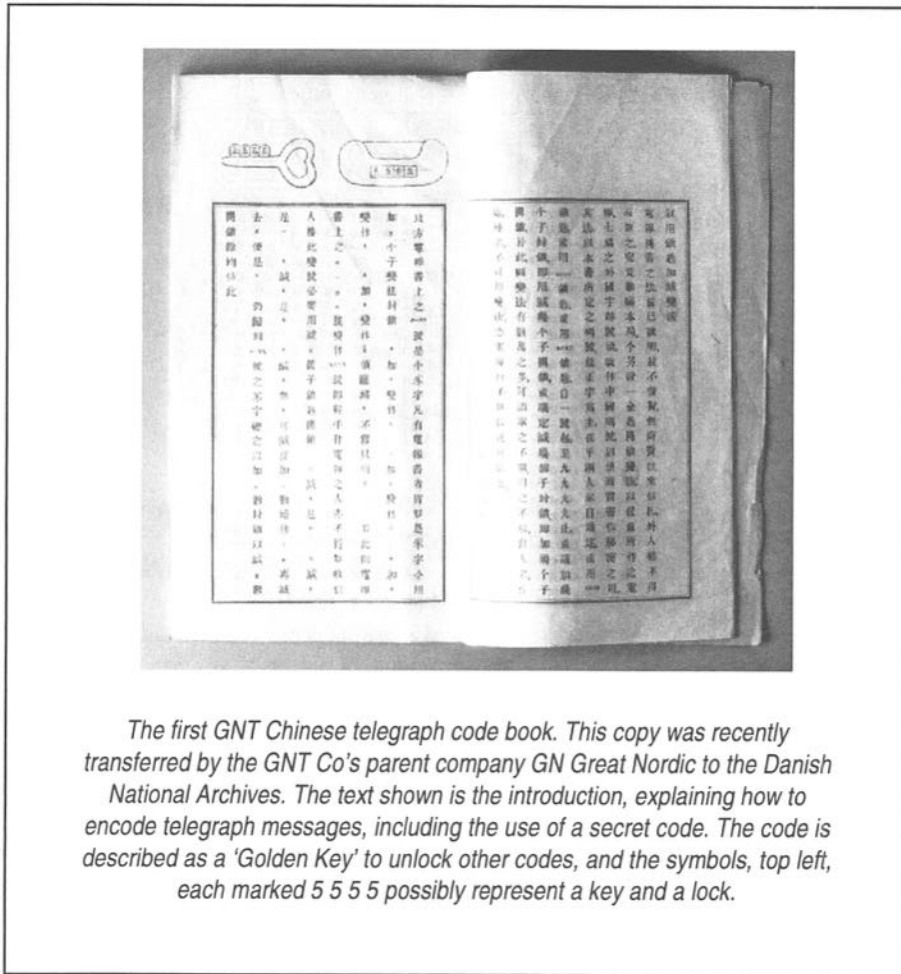
The first GNT Chinese telegraph code book. This copy was recently transferred by the GNT Co's parent company GN Great Nordic to the Danish National Archives. The text shown is the introduction, explaining how to encode telegraph messages, including the use of a secret code. The code is described as a 'Golden Key' to unlock other codes, and the symbols, top left, each marked 5 5 5 5 possibly represent a key and a lock.

make a nice profit. After this, it was not long before the Chinese business community had adopted the telegraph.

Great Northern quickly printed a large number of copies of the telegraph dictionary with detailed instructions in Chinese. However, Chinese telegraphists and businessmen soon became so used to Schjellerup's system that the rather unmanageable stamp device could be dispensed with. Over the years, the dictionary was printed in a number of new editions with ever larger numbers of ideograms, which finally totalled more than 7000.

Battle for Money – and Honour

After Great Northern had become established in China, Suenson returned to Denmark. His relationship with Viguier

0073	0044	0040	0024	0022	0021	0021	0000
5907 衷	1704 弇	3764 率	1987 慶	7874 齋	0073 六	0021	0000
5922 衰	0060	4545 章	0026	2455 方	1299 贏	7773 鹿	0071 上
5924 袞	6056 言	0586 卒	0781 唐	1579 市	5856 贏	7238 廳	0010
5923 袤	7299 音	0043	0028	1593 帝	5035 贏	1690 龐	0031 主
5905 衰	0071	1150 奕	0075 亥	1598 席	6366 贏	0339 充	4547 童
5946 褎	0072 亡	0044	0029	0794 商	7529 贏	7621 魔	4539 立

明密碼電報書

四角號碼難字檢查

had been good but in the following years, relations cooled between Viguier and Great Northern's new manager in Shanghai, Georg Dreyer.

The reason for this appears to have been repeated requests for money from Viguier who felt entitled to regular payment for the Danish company's use of the telegraph dictionary. Finally it became too much for Dreyer, who wrote on 5 June 1875 to Great Northern's Board about what he termed the Frenchman's 'effrontery'.

Not only had Viguier long since received his payment, but he had also taken all the credit for the telegraph dictionary: 'The system is not his, but Schjellerup's,' wrote Dreyer angrily to the Board and concluded: 'It is now my advice that the company should certainly reject him.'

Whilst it is difficult to check on the financial matters, it is certain that Viguier took the whole credit for the Chinese telegraph dictionary. In his preface to the dictionary, he made no mention of Schjellerup, but even so, Tietgen did not feel that Great Northern should follow Dreyer's advice.

Instead, Viguier was asked to come to Copenhagen and at a meeting of the Company's Board on 29 April 1876,

Chinese members of the Burlingame delegation in Copenhagen, October 1869

Tietgen proposed that a deal should be made. Tietgen suggested that by virtue of his job and his close links to the Chinese Administration, the French Captain of the Port could be 'a valuable ally', but he could also in contrast become a 'dangerous enemy of the Company'.

Tietgen accordingly proposed a draft contract to settle the Company's outstanding obligations with Viguier. With minor amendments, this was approved by the Board. The Frenchman was satisfied and the dispute was settled.

Viguier continued however to refer to himself as the sole author of the Chinese telegraph dictionary. Schjellerup's important contribution remained unmentioned in subsequent editions even though the dictionary was constructed on the Dane's number-based system.

Great Northern did not remonstrate with the Frenchman over this but did attempt to give equal credit in the Company's Jubilee Publication in 1894. In this, it stated that Schjellerup had carried out 'the preparatory work on such a dictionary' but that Viguier had given the system 'its more practical form'.

Schjellerup and Computer Language

Schjellerup's number-based system was very important for the development of the telegraph in China, but has also proved to be relevant right up to our time.

A problem similar to that involved in converting Chinese ideograms to Morse arose in developing the Chinese version of the DOS operating system for personal computers. Schjellerup's system was again utilised, and it was one of the first ways of using and translating Chinese ideograms for a computer language.

(The former American ambassador to Peking, Anson Burlingame, leader of the Chinese diplomatic delegation to Copenhagen in 1869, referred to in the above article, is an ancestor of MM *reader Lynn Burlingame N7CFO, editor of the N7CFO Keyletter. – Ed.)*

Readers' ADs

AS MANY READERS will know, The Vibroplex Company, Inc., was taken over by a new owner, Felton 'Mitch' Mitchell, W4OA, in 1994, the first radio amateur ever to own the company. Since he took over, Mitch has only published leaflets or 'flyers' advertising Vibroplex products, but he has now produced a small catalogue illustrating the full current Vibroplex range.

The Vibroplex Company has a long and honourable tradition of serving the telegraphic community, both professional and amateur, and many readers will recall that the amazing story of its struggle to protect its early patent rights is told in *The Story of the Key*, published by *MM*.

The Keys

In 1904, inventor Horace G. Martin patented a semi-automatic sending device with a weighted vibrating arm which was the first of a long line of Vibroplex keys, eventually termed 'bugs'. Today, Vibroplex still produce the 'Vibroplex Original', using tools and dies very similar to those used by Horace G. Martin. Designed for code speeds of 20 to 50+ words per minute, the Original is available in four models: Gold, Presentation, Deluxe, and Standard.

For those who prefer operating with an electronic keyer, the 'Vibrokeyer' is a single lever (non-iambic) paddle with the same main frame as the Original

'Bug', and "with the same motion used to operate the 'Bug'". Its code speed, of course, depends on the particular electronic keyer it is used with. The Vibrokeyer is available in three models: Gold, Deluxe and Standard.

A feature of the Vibroplex 'Brass Racer' keys is that the paddle tension is adjusted by the use of magnets. The Brass Racer EK-1 is both an iambic paddle and a keyer, with the keyer concealed in the base. The Brass Racer Iambic is identical to the EK-1, but without the built-in electronic keyer. This model is intended for use with an external keyer or keyer installed in a transmitter. Yet another model in this range is the Square Brass Racer – Iambic, which is mounted on a square base – a departure from the Vibroplex traditional style.
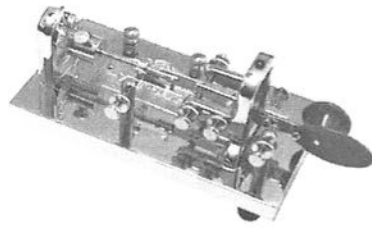
The Original Presentation - 'Bug'
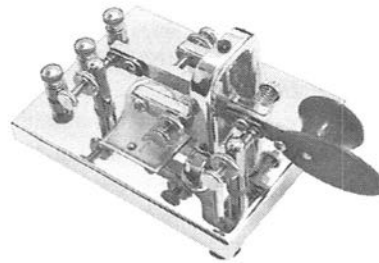
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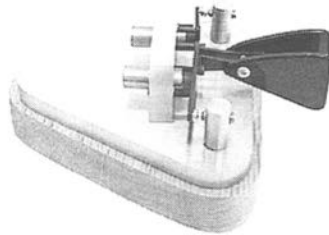
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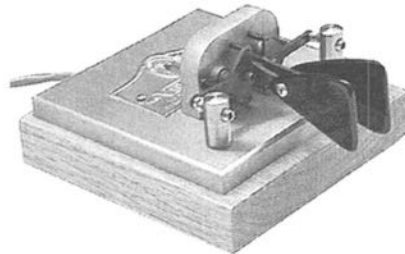
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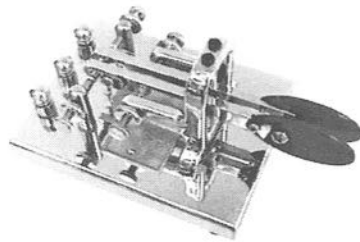
The Iambic Deluxe
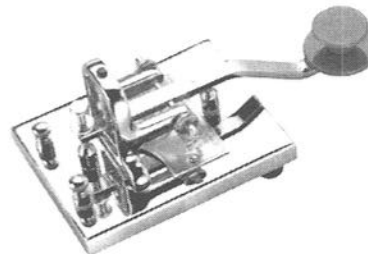
The Straight Key Deluxe

All photos: Raymond L. Cagle W4UJZ and The Vibroplex Company Inc.

The Vibroplex 'Iambic' is a twin-paddle key with the traditional Vibroplex look intended for use with a modern electronic keyer. This is available in four models: Gold, Presentation, Deluxe, and Standard.

The latest addition to the range is the very first ever Vibroplex Straight key, which has received some very good reviews since its introduction. It is available in three models: Gold, Deluxe, and Standard.

Meet the Owner

Noting that 'Mitch' Mitchell was an amateur radio CW enthusiast, and obviously very concerned in maintaining the traditions and reputation of the

historic Vibroplex Company, *MM* asked Mitch for some information about himself. He replied:

"I have been a ham for 34 years, obtaining my first license in 1963 at age 18. I have always been interested in the building and construction part of amateur radio. My first building project when I got my license in 1963 was a tube (valve) keyer, designed by W9TO, and later memorialized by the Hallicrafters Company as the HA-1 'TO' keyer. Of course, I bought a Vibroplex Vibrokeyer to use with my W9TO keyer! Over the ensuing years, I have built just about every CW keyer that has appeared in the ham magazines and *The ARRL Handbook*.

"I have for many years had an interest in several different electronic companies, including a company that did consulting work (we automated most of the CW operation of marine radio station WLO here in Mobile); a company that made computer cables; a company which wrote and marketed medical office management software; and a company that was involved early on in the satellite television field. I am currently on the board of directors of QMS, Inc., which is listed on the New York Stock Exchange, and which manufactures laser printers. I am also on the board of directors of several public and not-for-profit companies.

"My primary interest has always been ham radio. I had disposed of my interests in most of my 'electronic' com-

Felton 'Mitch' Mitchell W4OA, the first radio amateur to own Vibroplex

panies when I heard that Vibroplex might be for sale. I contacted the then owner, and finally purchased Vibroplex in 1994.

"Although my interests have always centered on things electronic, my professional background is in accountancy and law. I am a Certified Public Accountant and an Attorney. However, I now limit my practice and am concentrating on developing Vibroplex.

"I am 52 years old, married to my xyl Ann for 30 years, and have two daughters. My oldest, Marjorie, is 27 and lives and works in mid-town New York City. My youngest, Shellie, age 22, is a student currently spending a semester in Granada, Spain studying Spanish.

"Most of my operating currently is on 40-meter CW, my rig being an Icom IC-706. I just sold my Yaesu FT-1000D in anticipation of getting one of the new Icom IC-756 rigs, which has 6-meter coverage, one of my favorite bands. So listen for me around 7.040MHz, and on 6 SSB when the band is open!"

Further Information

For further information on Vibroplex keys, including prices and where they can be obtained, contact The Vibroplex Co., Inc., 11, Midtown Park East, Mobile, AL 36606-4141, USA. Tel. (334) 478-8873; Fax (334) 476-0465; E-mail w4oa@vibroplex.com – or see the Vibroplex web site at http://www.vibroplex.com/ *MM*

Bookshelf

A mail order book service for selected telegraphy and radio titles. The letters *MM* or *RB* followed by a number after each title indicate the magazine and issue in which a review appeared.

The prices quoted for each title are inclusive of postage and packing, the first figure being for despatch to UK addresses, the second for despatch to the rest of Europe by airmail or elsewhere in the world by surface mail. Airmail rates for the rest of the world on request, or if you are using your credit card we can ship by air at your instruction, simply adding the difference in postal cost to your bill.

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Info Please!
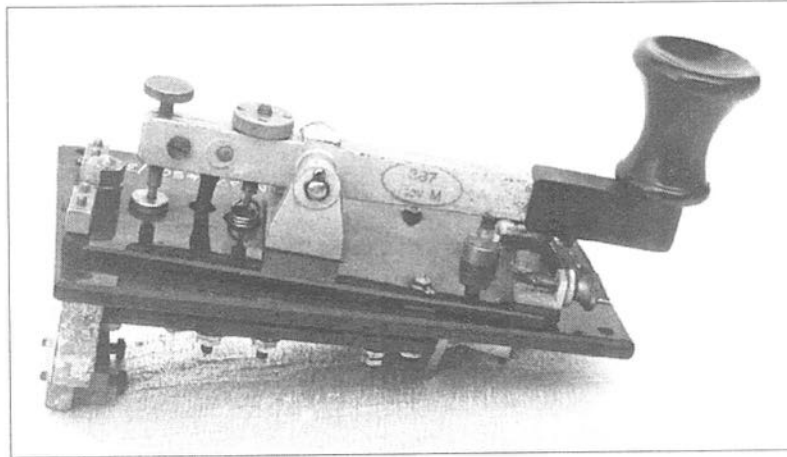
Baumuster key marked on cover (not shown) 'Baumuster TG.2A'; 'Werk Nr. 3760757'; 'Anf.Z. F1 26881'. The key assembly is mounted on a movable sub-base pivoted at the rear of the main base. The key and sub-base can be moved from side to side, within limits, to operate a send-receive switch mounted underneath the main base (see photo below). The sub-base is marked Nr 3784509/38. Any information about the use of this key will be welcome
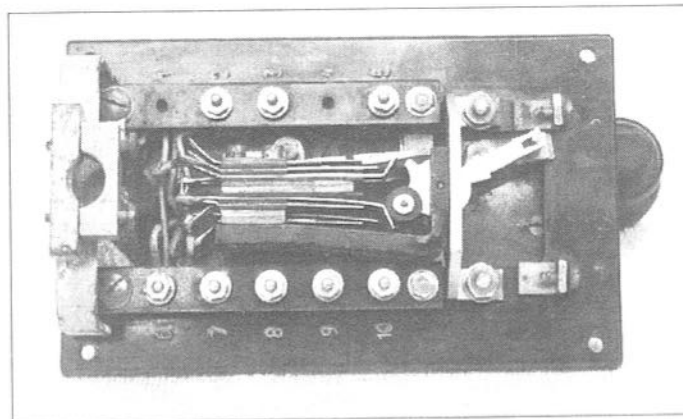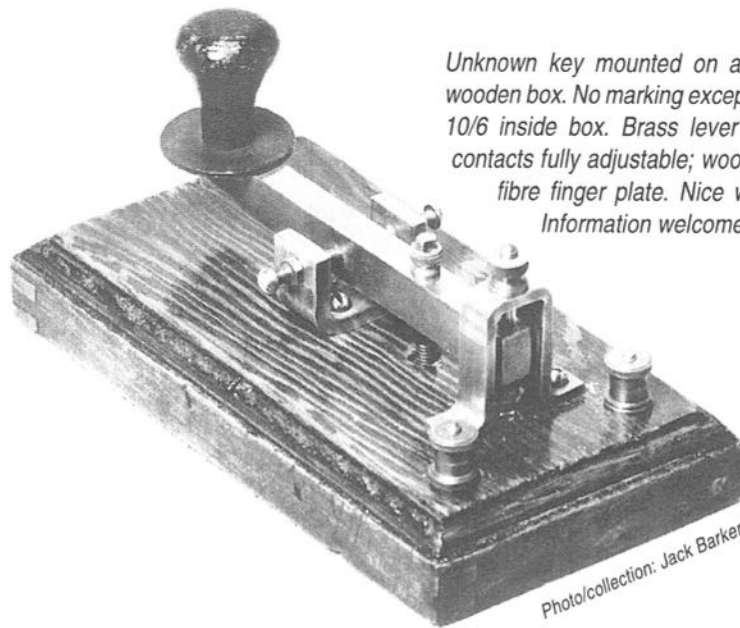
Unknown key mounted on a nicely dovetailed wooden box. No marking except a faintly pencilled 10/6 inside box. Brass lever and fittings; both contacts fully adjustable; wooden knob with thin fibre finger plate. Nice well balanced key. Information welcomed

Photo/collection: Jack Barker
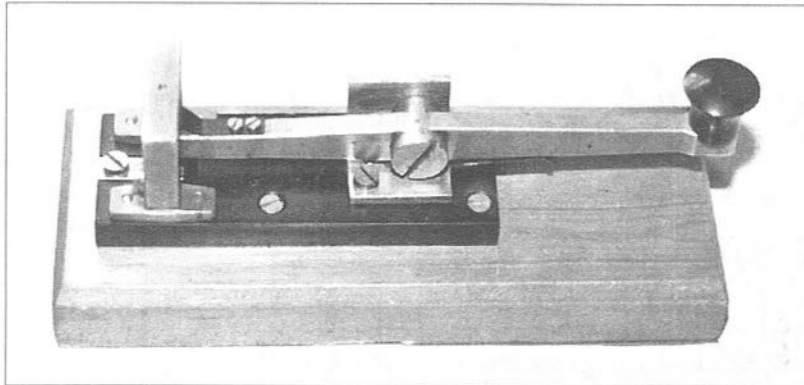
Photo/Collection: Ken Homewood G4UBP

Unknown key on new base. Sub-base is ebonite, all metal parts are nickel-plated brass. An unusual feature is the use of a leaf-spring for cushioning the top contact, and as a return spring for the lever. No adjustment for tension, and the gap is adjusted by shim washers (contact screw in). The key has a nice action and is very quiet in use due to the cushioned contact. Any info welcomed

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Readers require further information on the keys, etc., featured here.
Please write to Tony Smith, 13 Morley Road, Sheringham, Norfolk NR26 8JE
if you can help.
All useful information received will be published in MM in a later issue

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As CHIEF MORSE EXAMINER for the UK, I receive many unusual queries over the telephone. Anyone ringing the RSGB with a question about Morse code is immediately passed along to me and I am used as a source of reference by the BBC, the *Guinness Book of Records*, overseas radio societies, editors of amateur radio magazines and the general public.

In a typical week I am asked such diverse questions as: How do the Chinese send their strange language symbols in Morse? What is the meaning of QST? Why has the Thurso Naval Weather Morse Broadcast gone off the air? What is the world speed record for hand-sent Morse? How do I teach a deaf person to pass the Morse test?

All these requests are routine. However, in this job, you can never be certain that the next telephone call will not turn your world upside down, as the following serves to illustrate.

TV News Crew Coming

The day began as a fairly typical Monday morning. I was appreciating the comforts and pleasures of recent retirement by enjoying a leisurely breakfast whilst opening the morning mail and I was not contemplating doing anything more strenuous than checking the bands for DX, and perhaps doing some gardening later in the day.

The telephone rang. It was a young

Adieu to CW

by Roy Clayton G4SSH

lady with an American accent. "Hello, is that the Chief Morse Examiner? This is NBC News in London and we are doing a programme about the closure of French Morse Coast Stations in three days time. Can you comment on this and also provide some information about the continued use of Morse by radio amateurs?"

"Of course", I replied, with interest, "As an ex-Marine Radio Officer it gives me a feeling of sadness…" I was interrupted, "Great", said the YL, "the NBC TV News Crew will arrive at your house in about three hours time. We will have a cameraman, sound recordist, lighting engineer, interviewer, producer, research assistants and myself. We will interview you about the origins and future of Morse code, and would like to take shots of a typical amateur radio shack before heading for France. See you later." The phone went dead.

Quick MM *Refresher*

The toast shot out of my hand and fell marmalade-side downwards onto the kitchen floor. "Sacre-bleu," I shouted to the XYL, (or words to that effect). "There is an American TV crew arriving in three hours time to film in my shack!"

The XYL went quite pale and immediately shot away to dust through the house, visit the local supermarket and perform the dozens of other tasks deemed essential when learning of the imminent arrival of unexpected visitors.

As for me, I dash up to the shack, to do a hasty clear-up and grab the last dozen *MM* magazines for a last minute panic refresher on possible questions that I might be expected to know. What was the date of Samuel Morse's first transmission? When did the *Titanic* sink?

When does the GMDSS system become mandatory?

In Troop the Americans

There is a knock on the door at 13.00 and in troop the Americans with the biggest load of equipment I have ever seen. There are people with cameras, tripods, arc lights, microphones, booms, cables, and dozens of silver boxes containing unidentifiable objects.

I lead them up to the shack and from the sound of the "Wows!" and "Gee Wizzes" I can tell that they are impressed. I believe in displaying amateur radio items to encourage any non-believer, and my shack contains in excess of 100 framed award certificates, a couple of thousand QSL cards on the walls, world maps showing contacts made and a collection

Roy Clayton in his shack. As filmed in his NBC TV News interview

of Morse keys illuminated by concealed lighting.

However, although the size is reasonably large by the standard of most shacks it is only designed to have a one-man operating position and I can tell that this is going to pose some interesting technical problems.

Everything Rolling

I am invited to sit at the operating position where I am slowly surrounded by a wall of arc lights, reflector screens, tripods and cameras, and I am wired for sound. We are nearly ready to go when the camera man shouts in horror that the digital shack clock is strobing. This appears to be serious so the offending item is quickly removed out of sight. I am asked to speak, to test the sound level and I impress them enormously by reciting the phonetic alphabet.

The interviewer, (who must be important because he wears red braces) moves into the edge of the camera shot clutching a sheaf of notes, and I began to feel apprehensive about the whole idea. "OK Roy," says the great man, "let us just have an introductory chat first to check on sound and lighting."

I am not fooled. I have done this many times before with nervous Morse test candidates and I know darn well that everything is rolling. How should I react? If this is for viewing in the USA should I scatter such phrases as "Son of a Gun" and "Gimme a break" throughout my answers? I discard the idea, and decide to play it straight.

Story Angle

The next hour passes very quickly as the friendliness of the interviewer and the interest in the subject take over. I am trying to figure out the angle of the story and realise that he is skilfully attempting to get me to say that the introduction of new technology is dangerous and that CW should not be replaced on the Marine bands.

I resist, and make the point that Morse is being phased out in the shipping world because the use of communications satellites and high speed digital transmission systems allows commercial companies to pass a huge amount of information quickly. It is cost-effective to get rid of trained operators, but there may well be a price to pay should the automatic distress systems fail.

However, Morse will certainly not be allowed to die, especially by radio amateurs, where the need for making contact is more important than passing a large volume of traffic. I explain that although amateurs will still experiment with the latest technology, such as Moon-bounce and Meteor-scatter, they will always retain Morse because it is the most effective and reliable method of getting through.

I tell the interviewer that sending Morse is an elegant art. It is the one mode that can give a feeling of achievement and satisfaction. Every day thousands of radio amateurs around the world use Morse code to communicate with each other, using simple low-power equipment, in a demonstration of international friendship of which the United Nations can be proud.

It is part of our history, our heritage and our culture and it binds operators together with a spirit of achievement

which goes back to the first demonstration by Samuel Morse in 1844.

Demonstration

The interview is over and we move to the demonstration phase. The cameras move in for close-up shots and the fun really begins. I have been sitting in a pool of blazing light for what feels like an eternity and am feeling like a limp lettuce. "I would like to film a typical exchange between radio amateurs using Morse", declares the producer.

It sounds straightforward. However, they wish me to use a genuine straight Morse key placed at right angles to the bench so that the camera can see the gap closing, whilst another camera is focused on the S-meter and rig controls.

The lights move in closer, I have a furry microphone on a boom alongside my left ear and am having some difficulty sending right-handed on the key in this awkward position. I call CQ hoping that my Morse will sound better on playback. There is a deafening silence and I try again; still no reply, and the crew are getting restless.

One more CQ and back comes ER1CW. I resist the temptation to shout "Yee-Har" and I have a slick contact with Vic, who gives his QTH as some unpronounceable town in Moldavia. Vic, of course, is using an automatic keyer at about 30wpm, which is going to make my handraulic CW sound poor by comparison. Still, beggars can't be choosers, and I finish the final 73 with a flourish. The crew are happy.

Raised Eyebrows!

Now for the trick shots. The producer wants an impossible camera angle shot taken from behind the Morse key with my hand in focus and my face in the background. There is a conference and a small YL research assistant is persuaded to lay full length along the operating bench and curl herself around the back of the Morse key with a hand-held TV camera.

The producer requires me to move into the close-up with my chin level with the key. I attempt to send readable Morse in this uncomfortable position, with an attractive young lady assistant wrapped around me. The XYL arrives with a tray of sandwiches and coffee for the crew. I sense raised eyebrows – this is going to take some explaining later.

We move to the even more unlikely shots, where the cameraman lays on his back under my bench filming up at my face and I am instructed to "look as if you are receiving Morse." I wonder how I am expected to do that, and spend the next couple of minutes trying to look intense with an expression of concentration and the occasional flicker of a smile.

Time for a the big finish. I am asked to send NBC News France at a fairly fast rate of knots for the closing shot. I throw in an extra dot by mistake and hang my head in shame. As a concession I am allowed a re-take and my reputation is salvaged.

Tomorrow is Another Day

At last – it's in the can. The director announces that he is satisfied and thanks me, remarking that it was a pleasure to listen to someone that appeared to know what they were talking about for a change, instead of politicians.

He says he is surprised that I did not complain about all the awkward repeat shots and remarks that he expected me to have shown some frustration. I smile and ask him if he knows for certain that I really sent 'NBC News France' in Morse? A look of alarm crosses his face.

Handshakes all round, and the crew depart to film the closure of the French coast-stations. I begin to have disturbing thoughts. Did I really say Baltimore to Washington, or Baltimore to New York, for the first land-line demonstration by Samuel Morse? Never mind, it is too late now and I am comforted with the thought that my efforts will probably be reduced to a few seconds on-air time. My reflections are cut short by the XYL enquiring if it is OK for TV stars to lend a hand with the washing up?

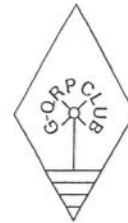Back to earth, and tomorrow is another day.   *MM*

If you enjoy reading *Morsum Magnificat*, please tell your friends about us, and encourage them to take out subscriptions too!

Short Breaks

Radio 'Ham' Makes Automatic Sender

In radio, an amateur is not necessarily unskilled; many of them are quite expert in maintaining communication with all parts of the world. This is done with a telegraph key, and a good deal of time is spent 'calling' until the low power signal is picked up at the other end.

A German amateur, W.L. Baumgarten, had the idea of making an automatic transmitter to save elbow grease; and turned one out, as illustrated below, from an old phonograph motor and some junk. As a paper tape is run endlessly between contacts, in the key circuit of his transmitter, a signal is sent out; each hole in the tape is equivalent to depressing the key, as it lets the contact spring touch the metal plate.

High speed commercial transmitters use punched tape to speed up, faster than a hand can work a key in the Continental Morse dots and dashes of radio.

From Everyday Science and Mechanics *for June 1936. (Contributed by Eric Ford G3VRU)*
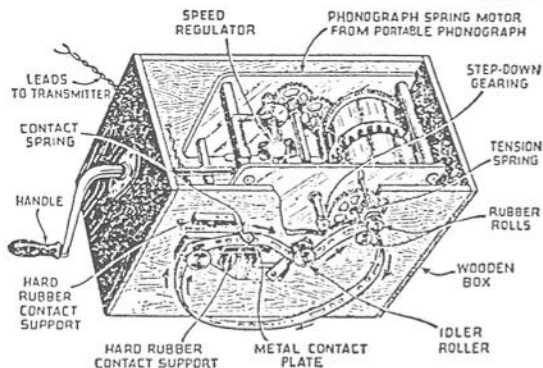
Works of the automatic caller, made out of a junkbox. The tape is common paper, punched for dots and dashes.

US Navy Action in SF 1906 Earthquake

On the evening of 17 April 1906, the flagship USS *Chicago* departed from San Francisco Bay. Early the next day that city was rocked by one of the most disastrous earthquakes in the nation's history. Fires which followed caused more damage to the city than the earthquake itself.

Virtually all water mains were ruptured, leaving the fire-fighting forces with no water. All telegraph lines between the city and the rest of the country were disrupted, and San Francisco was completely isolated.

The wireless operator on the *Chicago* received a message from the station of the US Navy base at Mare Island, across the bay from San Francisco, reporting the disaster. The Admiral aboard the vessel immediately ordered it to return at full speed to the city and by ten o'clock that terrible morning the *Chicago* was docked at the Ferry Building which had withstood the earthquake shocks. A large part of the crew immediately disembarked to help fight the fires and to curb looting.

The *Chicago*'s wireless equipment was employed at once to transmit priority emergency messages to the Mare Island station where they could be relayed as required to the landlines of the Postal and Western Union systems.

The ship was the city's sole rapid contact with the outside world for nearly two weeks until landlines were restored, and is reported to have handled a vast number of messages for military and municipal authorities.

Don deNeuf WA1SPM (SK)

THE ARTICLE, 'Questions about Non-English Morse', in MM49 (p.18), asked about the use of 'non-English' signals in International Morse, and the present day use of national language versions of the Morse code. In particular, Marco Eleuteri from Italy asked if there is a Japanese kanji code. Several readers responded to these questions and the following is a summary of the information received.

Experiences at Sea

Bastian van Es PA0RTW (Uncle Bas), writes: 'Before WWII, the callsign of Scheveningenradio, PCH, was transmitted as · — — · — — — — (In those days the Dutch letter CH was — — — —).

'When I was working on PCH, the signal — — · · — — was used quite frequently between operators on ships and the personnel of PCH as a friendly, joking, way of communicating between operators. It was used instead of QSD (your signals are lousy) or the well-known abbreviation TOF (try other foot).

'When I became a radio officer on the SS *Candida* (LELM) I had to learn several Norwegian signals, e.g., Å · — — · — and Æ · — · —. It didn't take long to get used to them, but the first few weeks were a disaster, especially copying Norwegian news bulletins.

'When I signed on the SS *Petersborg* (SHLA), a Swedish freighter from Gotenborg, this knowledge of the Norwegian Morse signals was very useful.

On the Greek vessel *Georgios Sidderatos* (SVRD), I did not understand a letter of the language and still do not. However, the staff, both on shore as well as on board, did not make things difficult for a Dutch boy and wrote their cables in normal(!) letters, but that is another story...

'In German, I am given to believe that some old Morse characters are still in use, mainly by amateurs who were once professionals. However, when I use these signals in amateur QSOs they frequently cause a "deadly silence", followed by several ???s. These signals are Ä · — · —, Ü · · — —, Ö — — — ·, and CH — — — —.'

Still Used in Sweden

Peter Montnemery, SM7CMY, wrote: 'I can tell you that the letters Å, Ä and Ö (· — — · —, · — · — and — — — ·) are still in frequent use in Sweden. When Swedish stations "speak" their native

language the letters are always used. I also know that the letters are used by other Scandinavian countries. In German the letters Ä and Ö are used as well as the letter Ü (· · − −).'

Used All the Time

Jens Henrik Nohns, OZ1CAR, wrote 'I'm surprised that Marco has never heard the Scandinavian letters "on-the-air", as they are used all the time by LA, SM, and OZ operators. The symbols for Ä and Æ are · − · −, Å is · − − · −, and Ö & Ø are − − − ·. The German Ü is · · − − but in Scandinavia we normally use Y instead of Ü.

Incidentally, the letter Å became official for written language in Denmark in about 1947–8. Before that we used AA instead of Å. Nowadays, AA is still used in a person's name.

No Special Characters for Dutch Letters

After reading the article in MM49, Monika Pouw-Arnold, PA3FBF, made a special effort to listen to Scandinavian amateur contacts on 80 metres. She reports that she has heard accented letters used frequently by Swedish, Danish and Norwegian stations.

She also reports that the German letters Ä, Ö and Ü can still be heard in German language QSOs, often in the operator's name or QTH. In QSOs with foreign stations they are replaced by AE, OE and UE. There is no Morse character for the letter ß which is represented by SS.

In Dutch, she says, there are no special Morse characters for the letters Ë, Ï and IJ, which are sent as E, I and Y or IJ.

(The syllabus and exam for the PMG's seagoing 'tickets' up to at least the 1970s required knowledge of the six 'accented characters' á or å, ch, é, ñ, ö and ü. I don't recall actually needing to use them more than a couple of times while I was at sea during the 1950s.

I do, though, remember hearing the occasional ship calling PCH using the signal · − − · − − − −. – Ed.)

Morse in Japan

Dave Rutledge, KN6EK, sent *MM* the following information:

'Japanese telegrams were traditionally written in the katakana syllabary, so that it is probably precise to say that it is a katakana code rather than a hiragana code. The katakana syllabary and the hiragana syllabary cover the same syllables, and Japanese can be written with either. Normally Japanese is written with a combination of katakana, hiragana, and the Chinese characters, or kanji, but it can be written phonetically entirely in either hiragana or katakana.

'Children's books are often written in hiragana. When Japanese is written in katakana, as it was in telegrams, it gives a feeling like italics does in languages with Roman letters. Katakana is often used in advertising in this way. A Morse code for the kanji would be impractical for reception by ear because it would have to cover several thousand characters! Older versions of the *ARRL Handbook* give the Japanese Morse Code, and so does the book *Morse Code, the Essential Language*, by L. Peter Carron, W3DKV, published by the ARRL.

'The katakana code, or "wabun" in Japanese, is required for the highest

Japanese license grade, the First Class license, and it is common on the air, particularly on 40 meters. It has a more continuous sound than International Morse because many of the characters have a total of 5 dits and dahs, and because Japanese writing (and sending) does not have word spaces. The callsigns are always sent in International Morse. The character $-\cdot\cdot--$ denotes the start of "wabun". This is usually just after the callsigns, but some operators will exchange RST, QTH, and name in International Morse first.

'Operators send CQ $-\cdot\cdot---$ to indicate that they want a "wabun" QSO. The (Japanese) parentheses characters ($-\cdot--\cdot-$ and) $\cdot-\cdot\cdot-\cdot$ are used in the middle of the message to enclose material in International Morse. This might be used for a callsign in the middle of a QSO, for example. The character $\cdot\cdot\cdot\cdot-\cdot$ indicates the end of the message, and a return to International Morse for the final callsigns.

'My experience is that often Japanese will use given names in International Morse QSOs, even with other Japanese operators, but surnames are more common in "wabun" QSOs.

'Listen to QSOs between Japanese stations, and for the telltale $-\cdot\cdot---$ that indicates the start of the katakana code.'

Background to Katakana

Roger Gould-King, ZS6QL, a former published and televised Poet to the Imperial Family of Japan, provides further background information on this subject:

'Katakana was the writing allocated to Japanese women as a mark of discrimination. In the same way that in the Victorian era women were required to acquire a handwriting of a specific style to distinguish them from men, katakana was used in Japan. Since anything not Japanese is regarded as inferior, katakana is used exclusively to spell phonetically, foreign words.

'Hiragana is the calligraphy of the former samurai class, or that used by men. The Japanese were given Chinese characters as a gift – they are not indigenous Japanese writing. The consequences were and are, far-reaching. There are about 50 000 Chinese characters – but the average Japanese only learns some 900 in his/her lifetime.

'Each character has two main meanings – ON (Chinese classical meaning), and KUN, the Japanese allocated meaning. In addition to these main meanings, each character can have a whole lot of other meanings. As a result, characters are read in conjunction with each other to get the complete message. I don't see how the Japanese can use anything other than a phonetic type "alphabet" for phonetic Japanese "Morse".'

More Info Please!

MM would like to include information about other non-English versions of the code if they are still in use today. Can any readers tell us about the present status or use of Korean, Turkish, Arabic, Hebrew and Greek versions of the Morse code, or others if they exist? If those codes are no longer in use, we would like to know when they were discontinued and to receive information about their original use.　　*MM*
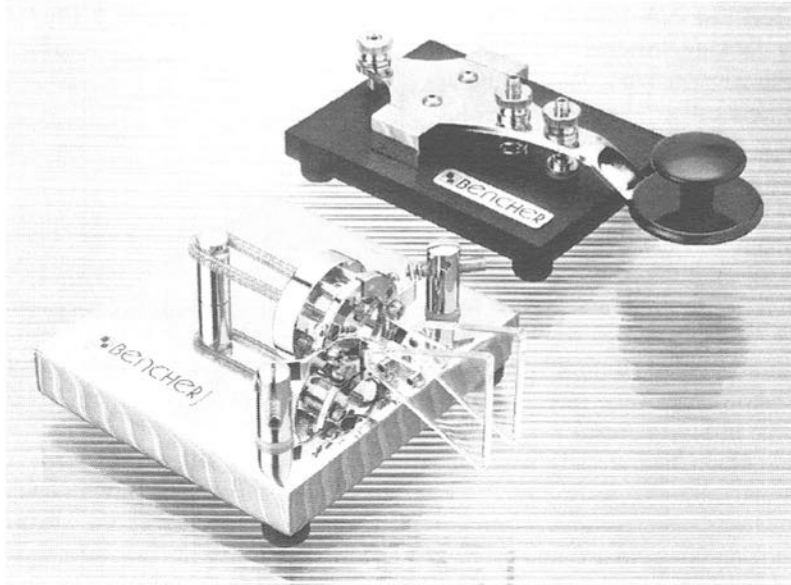
I T MUST HAVE BEEN his keen foresight in early 1919 that led Mr Albert C. Gilbert, inventor of the famous ERECTOR [1] sets, to see that now was the time to begin popularising wireless among young boys. World War I had just ended, and people were eagerly looking forward to peace and scientific advancement. The sets he designed were called 'Wireless Telegraph' sets. One of his key points was: *Make learning fun.*

The ban on all non-government wireless operation in the US, receiving as well as transmitting, was still on [2], and it would be three years before radio broadcasting in America would suddenly become popular. (Before WWI voice broadcasting was very rare, but there was some in Morse code.)

Mr. Gilbert had already begun designing and selling several kinds of 'toys' for teaching elementary science, providing hands-on things to assemble and experiment with. They were extensions of the ERECTOR set idea: do it yourself, have fun and learn. The instruction books that accompanied each kind of set were written by experts to create an aura of fun and interest, along with essential basic principles.

Each set covered a modest area of physics (e.g., electricity and magnetism, sound, hydraulics, weather), and some taught elementary chemistry.

Every set contained various items and parts with which to do appropriate ex-

The A.C. Gilbert 'Wireless Telegraph' Set

A Learning Tool or a Toy?

by Wm.G. Pierpont N0HFF

periments, was attractively boxed and moderately priced.

The 'Wireless Telegraph' Set

These little 'transceiver' sets could hardly be simpler, as the illustration shows (courtesy of material supplied by the Eli Whitney Museum in Hamden, CT). On the left side is the 'receiver', consisting of nothing but a crystal detector with its adjustable cat's whisker. On the right is the 'transmitter', consisting of a simple spring key and a high pitched buzzer [3].

The change-over switch from receiving to transmitting and vice-versa is in the upper middle, and above it are the binding posts to connect the aerial and the ground. Prominent in the centre below was a printed copy of the 'Wireless'

Code. Two binding posts in the upper right corner were for attaching one or two dry cells for transmitting. The two binding posts in the left lower corner were for connecting a single headphone.

Completing each set was a single, simple headphone which was probably not very sensitive (identical with those provided in their telephone sets which used batteries), and a length of copper wire for the aerial for each individual station. (Two sets were available, No. 4004 which contained one 'station' and No. 4005 which contained two 'stations'.) The purchaser was to supply the needed dry cells.

It should be clear to us that the only 'tuning' present was that of the antenna-ground system connected across the buzzer contacts. The voltage pulses induced as the buzzer contacts opened would excite the antenna system in much the same way as a spark coil, but more weakly. (Shock excitation of a resonant circuit). At the receiver, its signals would resemble the sound of a spark station.

The communication range between two of these stations was said to be a block or two at most. (During WWI buzzer-type transmission was sometimes used for communication between ships on the high seas because its range was so short that the enemy could hardly benefit.)

Very soon thereafter, however, as tube type receivers came into wider use, these little 'transmitters' could create severe interference over a wide frequency range for miles around!

Although when I had these sets in 1925–26 there was little broadcasting to be interfered with, I did not 'put them on the air'. In fact I had no friend living close enough to risk trying them out. Whether we are justified in calling these 'transceivers' may be open to question, but they did combine in one unit both functions, although the only common features were the base board and the changeover switch.
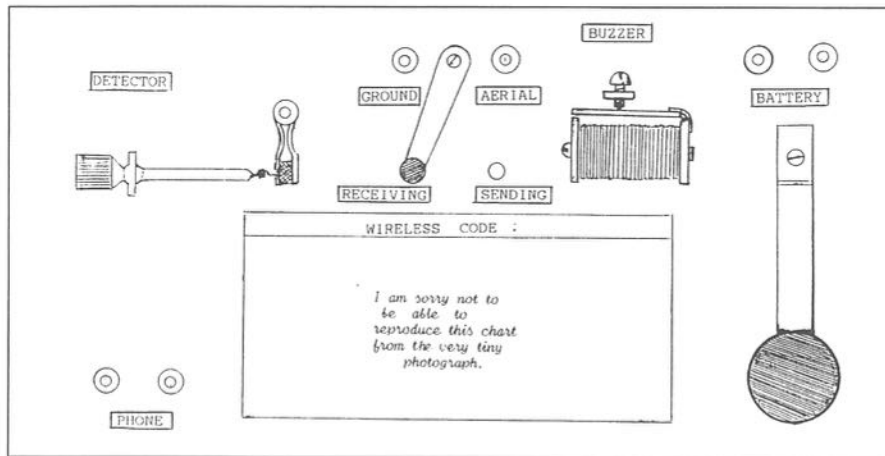
Layout of the A.C. Gilbert 'Wireless Telegraph' Set

Three Aims

What was Mr Gilbert trying to do? In retrospect, he must have aimed for three things: (a) to stir up a wider interest in radio, (b) to tap that interest to teach in a practical hands-on way some of its principles, and (c) to encourage those really interested in 'Wireless' to learn the Morse code in order to be able to participate actively in it.

Until after WWII almost all wireless communication was by necessity in Morse. To use wireless meant you had to know the telegraph code. (There was some broadcasting in Morse). Very, very few experimenters – which included amateurs – could transmit voice (or music), and fewer still sometimes broadcast news, music, weather, etc.

Mr Gilbert followed the almost universal practice of expecting the student to learn Morse from a printed table. Few people in those days realised that visual memory and auditory memory are two distinct and unrelated compartments of the brain.

A person who had learned the letters and numbers as visual dots and dashes, actually had to learn them all over again by sound – although he might not have realised that is what he was doing. This unwittingly put at least a double burden on the learning process.

Commendable Effort

In spite of very much hard practice, most such learners hit that discouraging and well-known plateau at around 7–10 words per minute. Many just gave up. It would be four years before *QST* showed the better way [4]: that the Morse code is an alphabet of sound, and to be learned easily and efficiently it must be learned from the very first as patterns of sound. (Sadly, it would be many years before more than a very few teachers learned that lesson).

Mr Gilbert, however, certainly had the best of intentions, and is to be commended for his efforts to promote scientific pursuits. His products influenced many a youngster to make their career in science or engineering. He wanted to make learning fun, and he succeeded very well.

Not Originally a 'Transceiver'

Further research has shown that the 1919 original of the Wireless Set No. 4004 was not a 'transceiver' but consisted of two boards, each of the same size as the transceiver board. One was the transmitter, containing the key and buzzer, and the other the receiver with the adjustable crystal and a metal-covered fixed crystal, with a switch to select one or the other. Separate aerials were to be used to transmit and receive.

The change to transceiver form must have been made very early, for the warning about not going on the air [2] accompanied the combined 'transceiver' sets. A different set of illustrations of the equipment and its details was given in the original manual to match the sets first sold, but the basics of the manual in each case were otherwise identical.

Interestingly, the Instructions for the 'Gilbert No. 4004 Wireless Outfit' were written by Clarence D. Tuska (ex 1WD) who, with Hiram Percy Maxim founded the American Radio Relay League, later founding his own company to manufacture radios and components, etc.

Notes

[1] Gilbert of New Haven, CT, as a youth was fascinated first with 'magic' (sleight of hand) and puzzles and then in all areas of science. In 1913 he invented the ERECTOR set which became a major product of the A.C. Gilbert Co. he established. He also produced puzzles and magic sets. During WWI his production of electric motors greatly aided the military. After the war the company also produced many other civilian items.

ERECTOR sets contained many kinds of stamped-out metal parts, wheels, axles, screws, and nuts, and with them one could design and construct many kinds of buildings, bridges, machines, vehicles, etc. The larger sets also had gears and electric motors to provide power to operate the things constructed. These satisfied the urge of many boys and even grown-ups to try their hands at mechanical construction.

[2] Beginning 17 April 1917, the US government banned all non-governmental wireless operation. All receiving and transmitting equipment (including antennas) was ordered dismantled or sealed. For this reason, Gilbert omitted the necessary crystal detector and included a 'Special Notice!' with each Wireless Telegraph set.

The Notice stated: 'Government restrictions do not (presently) permit the use of Wireless apparatus ...', and continued by saying that if the purchaser would send in his name and address, the company would notify him as soon as these restrictions were removed, and would then send him the 'mineral' (crystal) needed for receiving.

To understand the significance of this situation, the following comments apply:

The first US government regulations for 'wireless' came in 1912. Licences were required only for those transmitting stations which were engaged in interstate commerce, or otherwise those whose signals could be heard across state boundaries, or which might cause interference with government or commercial communications. In that early period most receiving sets used crystal detectors and had no amplification. All the power to operate the headphones came from the distant transmitter. That meant that even a one kilowatt transmitter was rarely heard more than a couple of hundred miles away. So most 'amateur' and experimental stations needed no licences at all, either for station or operator. In fact, the word 'Amateur' did not appear at all in the first US communication act.

During the ban Gilbert's instructions were to interconnect the two stations by wires running between their aerial terminals and ground connections, and to short-circuit each crystal detector with a wire so that they could operate in what we would call 'wired wireless' mode.

Receiving was finally permitted again beginning 12 April 1919, and transmitting was authorised from 1 October 1919.

[3] The pictured model must be the original. It differs from the ones I had only in that the crystal detector was replaced by a fixed crystal inside of a small round metal box. My sets were therefore of later production (which seems to have continued until about 1925–26). Fixed crystals were not very reliable in those

Your Letters

Canadian Scout Badges

Readers of *MM* might be interested in the requirements for the following badges, as set out in the *Boy Scout Badge Book*, published by the National Council, Boy Scouts of Canada, April 1965.

Signaller (A Queen's Scout Badge)

(i) Send and receive by Semaphore flags at the rate of seven words (35 letters) a minute, and by Morse flag at the rate of three words (15 letters) a minute – 90 per cent accuracy. Sending style to be accurate.

(ii) Send and receive at the rate of six words (30 letters) a minute on buzzer or sounder – 90 per cent accuracy.

(iii) Send and receive at the rate of five words (25 letters) a minute by lamp, helio, or other flash system – 90 per cent accuracy.

(iv) Understand how to call distant stations, and the procedure in handling messages – 95 per cent accuracy.

(v) Know the phonetic alphabet.

Radio Man (A Queen's Scout Badge)

(i) Know the correct procedure for sending a message either verbally or by International Morse code.

(ii) Be able to send and receive at the rate of ten words (fifty letters) a minute, with 95 per cent accuracy.

(iii) Know the Government regulations respecting Amateur Wireless Stations and Operators.

(iv) Draw a diagram and explain the elementary working principles of a simple receiving station and a simple transmitting set; or demonstrate the same at his own or another wireless station.

(v) If the owner of a wireless station, show the Government Permit for its operation.

(vi) Either:

(a) build a simple receiver using 1 or 2 tubes and explain the hook-up used, *or*

(b) build a crystal receiver (cat's whisker) and explain the hook-up used.

Chris Bisaillion
Kanata, Ontario, Canada

(We would be interested to know if Scouts anywhere in the world today have signalling tests involving knowledge of the Morse code? Could readers connected with the Scout movement let us know if there are still such tests in their own countries please? – Ed.)

CW Power Gain Advantage

The recent DX-pedition to the uninhabited and remote Heard Island in the Southern Ocean certainly served to demonstrate the outstanding advantages of Morse when attempting to make

contact with weak and fading signals over a difficult path using basic equipment.

Using a vertical antenna their signal strength into the UK was typically 339 and never better than 559. My signal strength to them must have been similar or lower, and diluted amongst a hundred other callers, all attempting to contact this rare location.

There were many occasions when the DX cluster tipped off VK0IR on SSB and I attempted to tune them in. On no occasion could I even read the station, whereas on CW I was able to make contact on four bands using 100 watts whilst reading signals in extremely adverse conditions.

With all the talk about Morse becoming redundant as we approach the Millennium, a significant point to make to newcomers is that the estimated 20dB power gain that CW enjoys when compared to SSB will certainly not become obsolete.

Roy Clayton G4SSH
Scarborough, North Yorkshire

Preservation Essential

I am continuing to search for, and gather, photos of S.F.B. Morse. The more I capture, and catalogue, the less likely is their continued obscurity.

John Elwood, WW7P, sets an excellent example in his passion and dedication to a specific aspect of the business and by his monumental contribution (MM49) in sifting, sorting and cataloguing all that Vibroplex data.

All of this material is far too precious not to be gathered and maintained in at least one secure place, We should all do our best to preserve the available information and history, both general and obscure, in a particular area of interest or expertise.

Robert W. Betts N1KPR
Shelton, CT, USA

Morse in the Media

In the past I have read in *MM* reference to the use of Morse on TV, Films, etc. On Friday, January 31, I heard a BBC Radio 4 broadcast in their Classic Serial Series, 'Night Flight', a dramatisation by Ray Jenkins from *Vol de Nuit* by Antoine de Saint-Exupery, summarised in the *Radio Times* 'In their tiny open plane, the pilots of the pioneering South American air mail risk their lives every night'.

Antoine de Saint-Exupery is apparently best know as an author of the whimsical children's classic *The Little Prince*. He was also a pilot and, in the thirties, director of the Argentinean Air Mail service. Extracts of Morse were used to great dramatic effect in the storms in the production, with talk relative to the trailing aerial. Morse code in the broadcast was credited to Bill Jennings.

Ron Horsley G0MRH
Stratford upon Avon, Warwickshire

Twin Paddle from MM49

I have been using a twin paddle key similar to the 'unknown' paddle, said to be 'from India', on page 34 of MM49, for about fifteen years. I bought it second-hand, but it originally came from S.E.M. on the Isle of Man. It still gives me daily service although it has quite a lot of 'play' in the main bearings which was there when I bought it.

Despite that, it is my favourite key against a Vibroplex and a Hi-mound, and I can QRQ with it much easier than with the latter two!

John Worthington GW3COI
Abersoch, Wales

I bought one of these keys from S.E.M. a few years ago. They used to advertise them as companion paddles for their Cosmic keyer. It's a bit 'cheap and cheerful', but it performs quite nicely.

Colin Bird G0SDA
Necton, Norfolk

My twin paddle key seems to be identical to the one shown on page 34 of MM49, although it does not have the 80 x 60mm base shown. The black plastic base of mine is 55 x 45mm.

I bought it locally at the same time as my S.E.M. iambic keyer and, although there is no identification on it, have always assumed it is the 'First Class Paddle Key' which S.E.M. have advertised with their keyer for quite a few years.

There is a $^1/_{16}$-inch ball above and below each paddle arm. It has both spring and gap adjustments and the pivots can be adjusted by screws at the top. I find it very nice to use.

Albert Rhodes G4KIJ
Huddersfield, Yorkshire

(MM *sent a copy of the photo from MM49 to S.E.M. in the Isle of Man and, assuming it was their key, asked for further information about it. They replied:* "This key has been made for us in England for about 25 years and it has been a great success with users. It has also proved to be a popular product with our German agent."

We note that apart from their twin paddle key (currently priced at £39.50, including VAT and delivery), S.E.M. also market two iambic keyers, an 'audio multifilter', and an 'audio CW filter'. If readers have any experience of these we would welcome their comments. Don't worry about duplicating information. If we get reports on the same unit from more than one reader we will prepare a composite feature. – Ed.)

Iambic Keying

Andy Barth asked about the best way to learn iambic keying (MM50, p.55). Some years ago I bought an iambic key but could never manage to operate it. I much preferred my antique heavyweight up-and-downer from WWI.

However, determined not to be beaten by an electronic box of tricks, I took it with me on a recent holiday in Majorca, and practised every day. Ten minutes was the maximum amount of concentration my poor old brain could manage at one time, but after a suitable rest, and a 'cuppa', I would have another go… Then another ten minutes, and another cuppa… and so on.

Eventually, lo and behold, I managed the technique – slowly at first, but gradually speeding up and getting the hang of it. Now, if I can do it, anyone can, for I have a large chunk of metal in my wrist which restricts movement – and also sets off all sorts of buzzers when I walk through a Customs check.

Incidentally, I also discovered that nothing clears a hotel lounge as quickly as somebody practising Morse code…

Douglas Byrne G3KPO/GB3WM
Ryde, Isle of Wight

Andy Barth raised some interesting questions in MM50 and I'd like to comment based on my own experience. I gained a First Class PMG in 1963 and served as a Radio Officer in the Merchant Navy. At that time Morse was in universal use and almost exclusively sent on a hand key, at least on British ships.

I was first licensed as an amateur in 1978 and shortly afterwards tried an electronic key for contest use. I quickly found that it upset my wrist action on the straight key. The answer was simple. I swapped the connections on the paddle and taught myself to use the electronic key left-handed although I'm naturally right-handed.

This has many advantages including leaving my right hand free to write the log, press buttons, and tune the transceiver. However, I prefer to use a straight key and still happily rattle along at 25+ wpm.

John McGinty G4GZQ
Thatcham, Berks

Re the letter from Andy Barth, I consider that the bother of learning to key in iambic mode is hard work, especially when you consider the benefit derived (i.e., less physical movement) is on a par with going bareheaded to prevent having to raise your hat to a lady! Then there is the possibility of your keyer going U/S and having to resort back to ordinary keys anyway!

John Worthington GW3COI
Abersoch, Wales

Andy Barth asks for guidance on the use of an iambic keyer, and in particular mentions the alleged advantage of short-cutting with the paddles, as can be done with the characters C, F, L, Q, Y and various other signals.

My advice concerning this practice is – don't! It cannot affect speed; its saving on finger stress is minimal; and it is very easy to find the odd dit or dah creeping in or being omitted, particularly when operating at speed.

I had to adopt iambic keying when arthritis put a stop to my straight keying, and found no difficulty adapting to the system. I quickly spotted the short-cutting possibility, and almost as quickly abandoned it. It isn't like Everest, you don't have to climb it just because it's there.

W.G. Reeve
Huntingdon, Cambridgeshire

What Makes a Good Key?

Gary Bold's article on page 36 of MM49 was interesting. I think we all have our preferences and the answers to Gary's question will be vary varied.

I worked someone recently who thinks his home-made hacksaw blade key is better than anything on the market! I have one and think it is execrable!

John Worthington GW3COI
Abersoch, Wales

Melehan Valiant in the Air

In 1948, Cathay Pacific Airways employed six Radio Operators. We had six DC3s and a Catalina; seven Captains and seven First Officers. When we saw a fully automatic key advertised in a magazine, three of us sent for them. It was the Melehan Valiant Automatic mechanical key made for Melehan Radio Products Co. of Anaheim, California, by
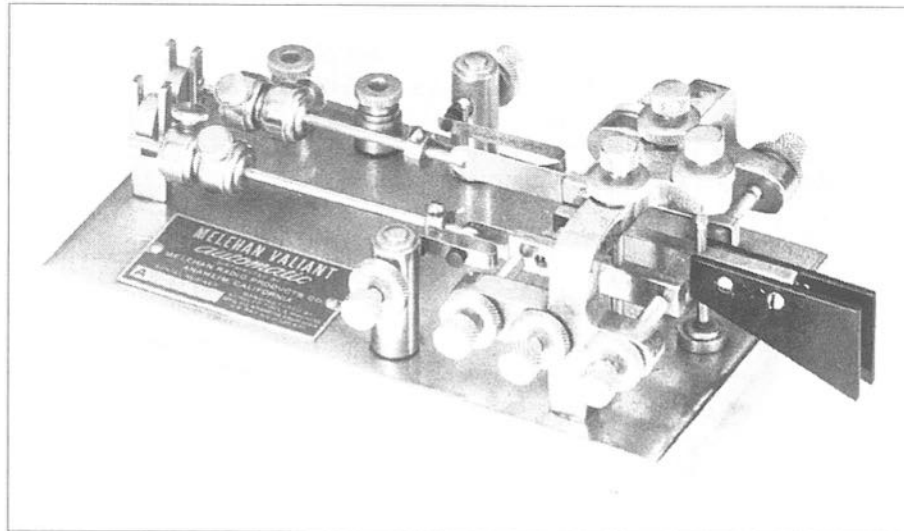
Peter Smith's Melehan Valiant Automatic key, Serial No. A.1046

Schultz Tool and Machine Mfg. Co. The base measured 7in x 4in. It had two vibrating arms, a fast one for dots and a slower one for dashes.

Equipment was very hard to come by so soon after the war and, although we knew about semi-automatic bugs like the Vibroplex, we all used hand keys. Presented with the opportunity, we couldn't resist the temptation of having a fully automatic key.

We flew very long hours, and as the R/O had to stay awake for the whole trip, we jumped at the chance of making life a little easier. Unfortunately, although the Valiant was a very well made key it proved unsuitable for our work.

We overlooked the fact that any automatic key which depended on swinging weights was completely useless in small aircraft flying in the very rough weather that we encountered. The weights would swing around wildly and

render the key useless – so we went back to our old hand keys.

Memories from long ago.

Peter J. Smith
Seaford, East Sussex

Secure Military Morse in RSA

In 1972 I was given the job of writing a Morse encoding system for the South African Defence Force which ran on the (then) Datapoint mini computer systems.

At its basic level, a soldier could sit and type at the keyboard and transmit plain Morse, or sit back and watch incoming Morse from a field (tank/other) based station transmitted by radio – I put together what eventually became an RCA-Datapoint system for repeater transmitted data from Johannesburg to Cape Town in 1978.

At its most interesting level, the system was used to defeat the then Russian intelligence and used a mathematical en-

cryption algorithm invented by me, using synchronised computer clocks and other devices, to encrypt messages transmitted by radio/computer. At first I used standard Morse dits and dahs, but later modified this to effect a more efficient system.

Roger King ZS6QL
Johannesburg, South Africa

Calls You Have Loved

Re Doug Coe's letter on 'good' callsigns. It's an interesting subject. I well recall my disgust at being allocated G3COI because the last letter is a difficult one to receive in QRM. However, in 50 years of daily use I have become 'accustomed to its face'.

The Irish calls would seem to be awkward, but I find them evocative because in WWII we had sporadic QSOs with the *Yankee Clipper*, a large flying boat that made regular trips via Shannon to the UK.

The operator came into our wireless cabin on one historic occasion, when the aircraft was diverted to Lough Erne, and dished out packs of Camel cigarettes to the lads who had coped with his bug-sent plain language (as the huge plane landed in a blizzard and took off again to find the boat sent to lead him in).

His callsign was EIS which, when heard, sent the watch operator into spasms of embarrassment in coping with the totally unfamiliar bug speed. EIS might be an ugly callsign to some, but we thought it full of majesty – and that was long before the free fags!

I agree with the editor's comment about rhythmic callsigns, indeed many calls actually match the rhythm of fa-mous musical phrases. The following is the 'Grasshopper's Dance': FE FE FN5. This was actually one of the callsigns allocated to a simulated net at the Wireless School (and caused great mirth to those who knew their popular pieces for piano!). But for all that, I think any callsign can be given its due by sending it with 'style'.

John Worthington GW3COI
Abersoch, Wales

In MM50, p.56, Doug Coe asked about calls that are a delight to hear in CW. I found the 1991 "M0RSE" call (used by RSGB nominated stations to commemorate the 200th anniversary of the birth of Samuel F.B. Morse) very 'ear-catching'. Perhaps its attraction arose from the use of dashes only at the beginning, a combination of symbols in the middle, and an ending with dots only.

When I am doing something else in my shack, I sometimes set my second receiver to a PCH-CW-channel to have its CQ-loop running as 'background music'!

I also like my own PA3 suffix. Each character consists one dash + three dots, with the first and last symbols identical. To my ears at least, this has a nice rhythm.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

Doug Coe asked about memorable callsigns and two of my old ones spring to mind – GZSV (SS *Mahseer*) and GDNB (SS *Mahronda*). Both of these had a rhythm all of their own and 'rolled off the key' with little effort. Sadly these ships have long since gone to the great

drydock in the sky and their owners, Thos. & Jno. Brocklebank of Liverpool are now a footnote in the history of the British Merchant Navy.

I enjoyed my brief spell as a Radio Officer when Morse communication was still paramount. Modern communication systems may be technically superior but they lack the 'soul' of Morse.

Morsum Magnificat is always interesting and I look forward to each issue. Keep up the good work.

John McGinty G4GZQ
Thatcham, Berks

In 1944/45, at RAF Habbaniya, two callsigns were in use, Y1G during the day and SN7 at night.

I found that SN7 was a good rhythmic callsign to send and, looking back, it was probably one of the best of a number of difficult calls that I sent whilst in RAF signals.

Alan Johnson G0KCJ
Tankerton, Kent

Doug Coe's letter on ergonomic callsigns was most interesting. With Morse of course rhythm is of the essence.

I too served in the RAF in WWII and when operating in Coastal Command Halifaxes, from RAF St. David's, the Plymouth Command callsign was QA1, which rang out most comfortably every half hour.

When the U-boats had retired hurt, the Squadron moved to Stornoway to harry the enemy desperately trying to return home from Norway across the Skagerrak. Control then had the callsign F5V, which was nearly as rhythmic.

I am very conscious of the great good

fortune that blessed me with G0NSU.

W.G. Reeve
Huntingdon, Cambridgeshire

Help Wanted

I am endeavouring to restore a Naval Handheld Morse Signalling Oil Lamp, which has most of its interior missing. I wonder if any readers can provide me

Mr Trott's Morse Signalling Lamp
Photo: W.F. Trott

with illustrations/dimensions of the reflector, wick burner, oil tank and shutter assembly, from either a similar unit or perhaps from an old handbook or catalogue? Makers appear to have included Britool, Griffiths and Davey.

W.F. Trott
Winchester, Hants
(An illustration of an apparently similar unit to this was among the Wills's

Cigarette Cards shown inside the back cover of MM50. That unit was described as a candle-lit 'flashing lantern' for use in boats, for communicating with their ships when away from them. The Admiralty Handbook of Signalling, 1913, refers to a candle-operated 'Boat's Flashing Lamp' with a disc and spring method of flashing, but it is not illustrated. It seems possible that Mr Trott's lamp may be of this type. If any readers can help with further information, please contact MM. – Ed.)

Too Slow?

Roger King mentioned his father-in-law's experience when his CW CQs were ignored because he sends/receives too slowly (MM50, p.59). It is a great pity that some people 'forget' what it was like when they themselves were mastering the key. It's a sort of 'memory-erasing virus' they should be aware of as they get older and more experienced. It also says something about how they handle other matters…

It's a problem that occurs even when you can work at higher speeds. Once in QSO with a station which I knew was capable of 60+ wpm, I was asked to try sending 'at least 30 wpm' because my ±25 wpm was 'too fatiguing' for him. My sending speed is limited to 25 wpm, but to help I suggested he send faster, up to my receiving limit of 30–35 wpm.

I know from my own experience, in QSOs with beginners on 2 metres, it can be fatiguing to listen to speeds far below those one normally uses. However, it could be their first ever QSO, or one of their first, and it can be a nice change to have an 8 wpm conversation to encour-age them to continue with their CW. In fact, my last QSO with a beginner lasted for over one hour.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

Regarding the letter from Roger King. Some operators just cannot slow down, being the type who live on their nerves, but it's just bad manners not to match your speed to your QSO.

By and large, most people do conform and there are also plenty of people who do make slow Morse – listen around 3560 any day or night. But I feel that if you're learning you'll never improve if you constantly work with slow Morse.

John Worthington GW3COI
Abersoch, Wales

The reaction to slow Morse cannot be defined 'by country' as it is a matter specific to individual operators. It could well be that it is just not possible to answer a 'very rusty' CQ which cannot be copied, or only by extreme effort!

Personally, I am no 'speed merchant' and normally work at speeds from 10 to 20 wpm, depending on the key used – and on my own 'fitness condition'! Apart from contests, where the speed used is 20–25 wpm, I do not hesitate to slow down, if necessary, to 6 wpm.

However, as amateurs have to pass an examination at speeds from 6 to 16 wpm, depending on licence class and the requirements of different countries, they do need to maintain their proficiency also.

'Ham-spirit' teaches us to slow down for a fellow ham, to tolerate mistakes in sending code, and to be kind to users of

'very individual' fists! But if the fist is so rusty that it is 'QRK ZERO', even if the signal is QSA 5, the question 'to QSO or not to QSO' is difficult to answer.

Otto A. Wiesner DJ5QK
Heidelberg, Germany

Visit to Porthcurno

I recently decided to make the long journey to visit the Porthcurno Submarine Telegraph Museum. I was finally persuaded when one of the museum volunteers, Mr Ted Amor, invited me over the telephone to make a special visit.

It was a long journey indeed. I left home (Halle, near Brussels) on Sunday morning and visited the museum on Monday morning. The actual visit lasted three hours – unfortunately I could not stay any longer – and the train journey (via Eurostar, Underground, British Rail) took about twelve hours each way… (Is it called Land's End or World's End?)

But it was the best decision I have made so far this year. First of all the people were extremely kind and knowledgeable; I met Mr John Worrall and Mr John Nash. Unfortunately the curator, Mr John Packer, about whom I heard a lot of good things, was absent. I am very grateful to all of them as they made it possible for me to see such magnificent historic telegraph instruments, most of them in working order!

For more descriptive details, I refer to the article on this museum in MM50, pages 16–21, and I strongly recommend a visit to Porthcurno for anyone interested in this kind of historic equipment.

Fons Vanden Berghen
Halle, Belgium

The A.C. Gilbert 'Wireless Telegraph' Set

days, and I do not think that either one functioned in my sets.

[4] Quoting from *QST* July 1923, p. 52 ff.: "The first step in learning the code is to memorize the dot and dash combinations representing the letters. *They must not be visualised as dots and dashes, however, but rather should be 'auralized' as sounds.* There is no such word as auralized, but if there were it would express the correct method of grasping the code. *The sound dit-dah (meaning a dot followed by a dash) in the head telephones must impress your mind directly as being the letter A, for instance, without causing black dots and dashes to float before your eyes for an instant…* This is a point that always troubles beginners, but *if you learn from the first to recognize the sounds as letters immediately without reverting to dots and dashes, you will make much better progress…*" (Emphasis mine.) *MM*

Ephemera

WILL'S CIGARETTES.

FLAGS USED
FOR FLAG SIGNALLING.
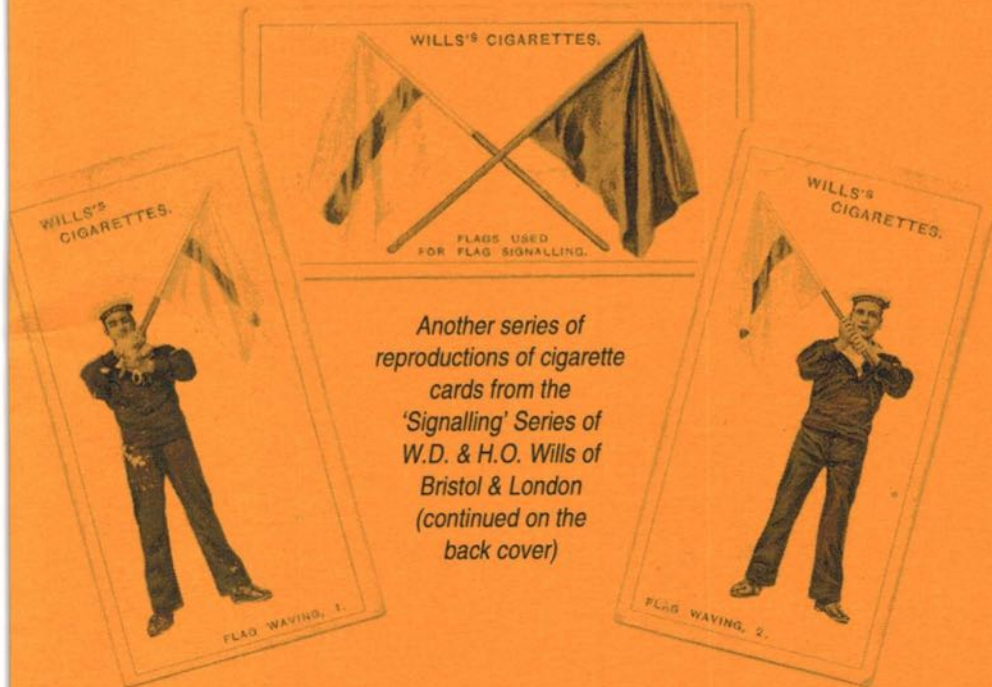
Another series of reproductions of cigarette cards from the 'Signalling' Series of W.D. & H.O. Wills of Bristol & London (continued on the back cover)

WILL'S CIGARETTES.

FLAG WAVING, 1.

WILL'S CIGARETTES.

FLAG WAVING, 2.

40

SIGNALLING SERIES
WILLS'S CIGARETTES

FLAGS USED FOR FLAG WAVING.

These flags are of two different sizes and colours, the large ones being three square feet and the small ones two feet square. The colour of one being white with a blue horizontal stripe, and the other all blue. The blue flag is used for a light background, and the white flag on a dark background. The fact that they are kept in rapid motion makes them appear larger than they are.

W.D. & H.O. WILLS,
BRISTOL & LONDON.

ISSUED BY THE IMPERIAL TOBACCO Cº
(OF GREAT BRITAIN & IRELAND) LTº

35

SIGNALLING SERIES
WILLS'S CIGARETTES

FLAG WAVING.

1.—This system of signalling, shown in our illustration, is called Flag Waving. The Morse code is used, and is made intelligible by waving a flag through short and long arcs, representing the "dots" and "dashes" forming the letters or signs. The picture shows the signaller at the normal position. The flag should make an angle of about 25°, with a vertical line through the centre of the body.

W.D. & H.O. WILLS,
BRISTOL & LONDON.

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36

SIGNALLING SERIES
WILLS'S CIGARETTES

FLAG WAVING.

2.—This picture shows the first position of the "short," or "dot"; the normal being assumed from the same without any pause. When making a letter, the "dots" and "dashes" should be made in one continual wave, without any pause at the normal position. Keeping the flag unfurled, it should be waved in a vertical plane, and not swept round to the front or overhead.

W.D. & H.O. WILLS,
BRISTOL & LONDON.

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Ephemera

WILLS'S CIGARETTES.

WILLS'S CIGARETTES.

WILLS'S CIGARETTES.

FLAG WAVING, 3.

FLAG WAVING, 4.

FLAG WAVING, 5.

87

SIGNALLING SERIES

WILLS'S CIGARETTES

FLAG WAVING.

3.—Our picture here shows the position of the flag on the completion of the "dash," or "long"; arriving there, the flag is brought back to the normal position after the slightest perceptible pause. The flag should be held with the left hand close to the butt, the right hand grasping the staff just above the left, and about in line with the mouth.

W.D. & H.O.WILLS,
BRISTOL & LONDON.

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ALBUMS FOR THESE PICTURE CARDS CAN BE OBTAINED

AT 1/- EACH FROM ALL TOBACCONISTS.

88

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WILLS'S CIGARETTES

FLAG WAVING.

4.—On the completion of a word, or group, the flag is brought to the position shown hereon, at the same time being gathered in. To commence another word, or group, the flag is again brought to the normal, and after a slight pause, the word is made. The signaller should stand exactly facing, or with his back to the receiver, according to the direction of the wind.

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WILLS'S CIGARETTES

FLAG WAVING.

5.—To fold the flag.—Hold the pole in the right hand, the butt to the rear and just beneath the arm-pit; next take the top left-hand corner of the flag and fold diagonally across to the right bottom corner, and by twisting the pole with the right hand roll the flag, and secure by tying the tapes firmly round the end.

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