Flying the flag for Morse

Number 53 – August 1997

Morsum Magnificat

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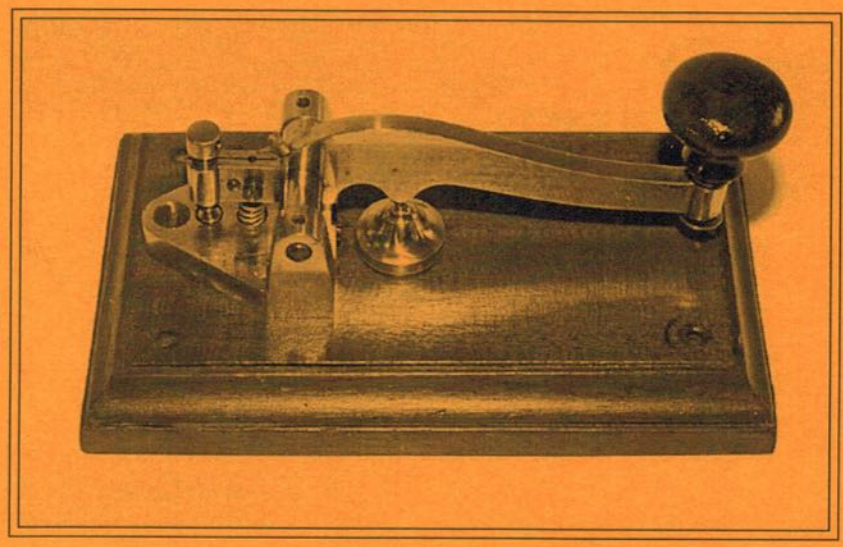
The Morse Magazine



Early Prussian Camelback Key

Flying the flag for Morse

Morsum Magnificat

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MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. 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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"When does my subscription expire ...?"
The answer is to be found on the envelope that contained your latest *MM*, where the number on the top line of the address label tells you the last issue you've paid for. Also, we shall jog your memory with a renewal reminder included with that final issue.

MM Back Issues
Limited stocks of Issues Nos. **31, 32, 34–36** and **38–52 only** are now available from the Editorial offices (see top of page). Price including postage £2.20 each to UK; £2.40 to Europe: £2.75 elsewhere by airmail. Deduct 20% if ordering 3 or more.

ON OUR FRONT COVER
An early Prussian camelback key, c.1855
Photo/Collection: Jean Le Galudec

Comment

I WAS ASKED AN INTERESTING QUESTION recently regarding the correct format for transmitting positions in terms of latitude and longitude via the medium of Morse code. The query related to a proposed new amateur propagation beacon, but my first reaction was to go to the old faithful PMG Handbooks for Marine Operators. Surprisingly, they tend to skate round the subject, such mentions as there are being very much of the 'throwaway' variety.

When pressed for an answer, I suggested using 'lat' or 'long' before, then 'deg', 'min' and 'sec' after each group of digits, or perhaps more realistically 'deg' and 'min' with the seconds converted to a decimal of a minute, separated by the usual 'r' to signify the decimal point. "Hold on," I was asked "where does that use of 'r' come from?"

That had me stumped; to me it was just a subconscious reflex – 'r' in the middle of a group of figures meant a decimal point! It was back to the bookshelf again, but after searching through some 15 or 20 reference works, the only corroboration found was in Appendix III of *The Code Book* by Robert W. Betts N1KPR *(see MM45)*.

Tuning round the coast-station section of the 8MHz marine band, I found many overseas stations seemed to have adopted a full stop (period) in frequencies which included decimal points, but Szczecin/SPE in Poland was using the 'r'. I am told that amateurs using ultra-QRP also use the 'r' in describing their power levels.

Thinking back to my seagoing days, I have a feeling that this use of 'r' came in towards the end of the 1950s, but how or where from I do not know. Can any *MM* reader enlighten us?

Subscription changes

Following a review of the administrative and financial arrangements involved in producing and publishing *MM*, it has been decided, with regret, to discontinue offering two-year subscriptions. This change is effective immediately, as readers due to renew with this issue will see from their reminder forms.

We know that the two-year rate has been popular with a number of readers, especially those outside the UK, and would like to apologise for any inconvenience caused.

Geoff Arnold

G3GSR

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News

CW Super-Station

Globe Wireless (formerly KFS World Communications) based in Half Moon Bay, California, has linked a number of CW Coast Station facilities to its network operations centre in California. From this one location, operators control transmitters, receivers and antenna selection at all stations. Globe Wireless calls this combination the CW Super-Station.

The coastal radio facilities operated as part of the Globe Wireless CW Super-Station include:
Chatham Radio/WCC (East Coast, USA)
Palo Alto Radio/KFS (San Francisco, California USA)
San Francisco Radio/KPH
(San Francisco, California USA)
Slidell Radio/WNU
(New Orleans, Louisiana, USA)

The combined traffic list is sent from all CW Super-Station locations. In addition to the above, Globe Wireless maintains a SOLAS (Safety of Life at Sea) listening watch on 500kHz, from Prince Rupert Radio/VAJ and Vancouver Radio/VAI under contract with the Canadian Coast Guard.

Information from Globe Wireless Home Page http://www.globewireless.com

CW Back on MARS

In MM48 we reported the discontinuance of Morse code communication (CW) in the Military Affiliate Radio System (MARS), as from 1 October 1996; and that all MARS traffic handling was being converted to digital communications.

A posting on the Internet's CW Reflector, 27 July 1997, indicates that CW nets have been resumed on MARS, with messages passed by CW for relay on the digital network.

Scheveningen Radio (PCH) to Close Down

It was reported by a national newspaper in Holland on 12 June 1997 that Scheveningen Radio, established in December 1904, is to close down completely on 1 January 1999.

The report, in summary, says: 'The Coastguard will take over the duties of Scheveningenradio such as: emergency and alarm messages and rescue activities. Weather forecasts and other vital information for shipping like wrecks, buoys, etc., will cease. Likewise telephone calls from ships to landline clients.

'This is necessary because of the enormous growth of the use of portable telephones and satellite communication. Pleasure craft and inland shipping are no longer interested in radiocommunication via Scheveningenradio (2182kHz) and only make use of GSM or car-telephone (900MHz) ...

'The merchant marine as a whole has switched over to satellite communi-

cation ... Because of the rapidly decreasing market, Scheveningenradio has suffered severe losses in recent years. Accordingly, the directors have decided to stop all activities of PCH after a period of more than 90 years ...

'At its peak, over 300 employees were employed day and night. The main part of the communication took place in Morse and the call sign PCH was known all over the world. Telephone communications (A3) with fishing vessels became an important part of the station's activities, and much later (in 1960) PCH was one of the first stations to use TOR (radio teletype) with passenger vessels. However, from about 1980 there began a deep decline in activity.

'In 1999 the most important functions of Scheveningenradio i.e. emergency, distress, rescue services will be taken over by satellite communication. Instead of channel 16 there will be a worldwide and international alarm number.

'For the few remaining operators a suitable job will be found. However, the old well-known call "This is Scheveningenradio" will not be heard again, ever.' *(Our thanks to 'Uncle Bas', Bastian van Es PA0RTW, himself an ex-PCH operator (see MM39, p.6) for translating and sending this report to* MM*).*

UK Maritime Radio Responsibilities Transfer

As from 30 June 1997, responsibility for maritime radio operator examinations and certification, maritime radio performance specifications, and type approval of maritime radiocommunications equipment, including compliance with the Electromagnetic Compatibility Directive, moved from the Radiocommunications Agency (RA) to the Marine Safety Agency of the Department of Transport (MSA).

Included in the transfer is the power to revoke an Authority to Operate to an individual. Certifying radio equipment type approval is now carried out by the Defence Research Agency as contractors to the MSA. The RA continues to be responsible for the licensing of maritime radio use under the Wireless Telegraphy Act 1949, the enforcement of licence conditions, and the investigation of reports of interference.
(Source: Radiocommunications Agency)

UK Spectrum Strategy Published

Britain's Radiocommunications Agency has published its third annual update of its Spectrum Strategy, covering the spectrum to 105GHz and spectrum management objectives for each sector. Referring to Amateur Radio, the Strategy says:

'The Agency will continue to actively support the development of the Amateur Radio Service, both nationally and internationally. In the light of the great changes taking place within radiocommunication, the Agency will be exploring with the Radio Society of Great Britain the future direction of Amateur Radio and how it should adapt and develop to meet the demands of the 21st century.

'The licensing structure, the revision of the Amateur Licence including the Morse requirement for HF operation, and how best to facilitate experimentation within the Amateur Radio Service are

all issues which the Agency will be discussing with the RSGB over the next five years.'

The Agency comments on the rapid growth of the Amateur Packet Radio network and says that it is working with the RSGB to provide a licensing framework for the expansion and development of the network 'in a controllable and spectrum efficient manner'. It continues:

'With increasing demands on the spectrum from other sectors pressures on the Amateur bands are very real. The Agency will therefore have to balance the needs of amateurs against the demands of existing and new radio services, and promote the most efficient and effective use of amateur radio allocations.'

In connection with the use of Morse in the Maritime Services, the document refers to the planned closure of 500kHz watch coast stations around the world following the implementation of GMDSS by 1999, and states that the 500kHz watch by the UK's Coastguard will cease 31 December 1997.

RN Abandons Masthead Signalling Lamps

According to a report in *The Daily Telegraph*, 13 July 1997, Britain's Royal Navy is to abandon the use of masthead signalling lanterns. The move was announced in a Defence Council Instruction which recognised that the lights have not been widely used at sea 'for some considerable time'. Recruits will no longer be trained to operate them and the lamps themselves will be gradually decommissioned.

The omnidirectional lamps, which sent commands to every ship in a group at once, and could not be intercepted by enemy vessels, were particularly valuable during radio silence.

Now, the report says, the Navy has secure communications systems capable of sending vast quantities of information between ships without risk of interception. Ships will, however, retain Aldis lamps either side of the bridge.

(Our thanks to the several readers who drew our attention to this report)

WRC-99 Amateur Morse Issue to be Deferred?

At the meeting of the Executive Committee of IARU Region 1, held on 3–6 April 1997, Wojciech Nietyksza SP5FM, the committee's Vice-chairman, reported that overloaded WRC-97 and WRC-99 agendas could result in the amateur radio provisions (including the question of the amateur Morse test) due to be considered at the World Radio Conference 1999 (WRC-99), being deferred to WRC-2001.

(From IARU Region 1 News, July 1997).

HST-97 Special Station

During the 2nd World High Speed Telegraphy Championships (HST-97), to be held in Sofia, Bulgaria, from 6–10 October 1997, a special HF/VHF station, LZ0HST, will be available for operation by contestants or visitors who possess appropriate amateur licences. CEPT licences are acceptable for this purpose.

The Championships will be held at the Hotel Rodina, Sofia, and visitors will be welcome. The Championships are being organised by the Bulgarian

Federation of Radio Amateurs. A summary of the rules for the Championships was published in MM51 (p.3).

Ham Band Intruders in RSA

The following item was broadcast by ZS6SRL Amateur Radio News Bulletin, Sunday, 8 June 1997. This bulletin is presented by the South African Radio League as a service to all Radio Amateurs and Shortwave listeners on the African Continent:

CW Right of Way?

'The SARL monitoring service advises that there are a number of broadcast and other illegal stations operating in the amateur exclusive 7050 to 7100 segment of 40 metres. The immediate reaction of most Hams is to QSO to a clear frequency, thereby leaving a clear frequency for the illegal station.

'Hams who are operating on a frequency when another station comes up are encouraged not to QSY but to rather persist with their QSO. If you find it impossible to continue a phone conversation, how about switching to CW and continuing?

'If we allow illegal users to displace amateur communications we are giving up our territory, and soon the squatters could take over the whole band. Roger Gould-King, the SARL IARUMS (International Amateur Radio Union Monitoring System) co-ordinator says we need to keep the illegals out and keep exclusive Ham frequencies exclusive to Hams.'

Commenting to *MM* on this suggestion, Roger Gould-King says: 'The many intruders on our bands here make rather large segments useless for phone work, so now our CW lads have an opportunity to QSY to upper regions and, after trying to make the contact via phone, to switch to CW and carry on. The CW key is being used as a weapon against the (too) many stations who are signatories to no international agreements, and pollute our bands with their noise.'

Farnsworth Method Criticised

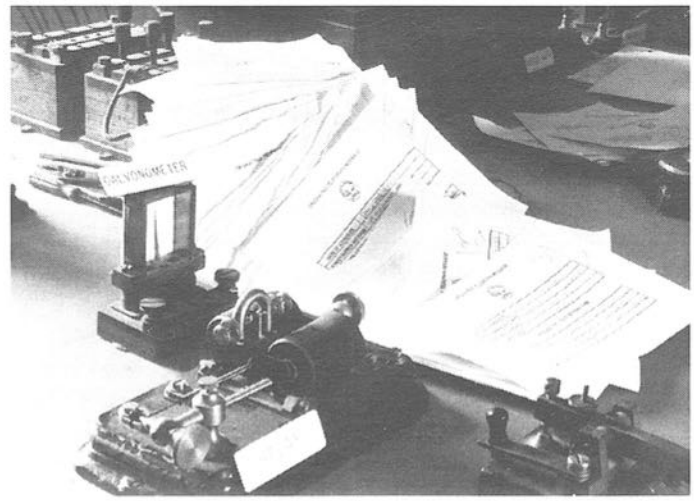
A report in the August issue of *Radio Communication*, journal of the Radio Society of Great Britain, notes that the RSGB Morse Test Service examined 640 candidates in the last year, with a pass rate of 75 percent.

The report says that there is evidence that some candidates who have been taught using the 'Farnsworth' method are incapable of receiving correctly proportioned Morse. It says that these candidates often complain that the Morse sent during the test is too slow, but with insufficient spacing between letters.

In view of the widespread use of the Farnsworth method of instruction in preparing candidates for the Morse test, *MM* will welcome the views of instructors and examiners on this comment from the RSGB.

Morsecodians at Alice 1997

The Morsecodians Fraternity had another very successful operation this year, working their annual 'landline' circuit from the historic Overland Telegraph Station at Alice Springs to the National Science and Technology Centre in Canberra. The event took place between April 19 and 27 to coincide with Heritage Week in the Northern Territory, and



Part of the pile of traffic transmitted from Alice Springs on the open day, April 24, together with various instruments, etc., used on the circuit, including an old (c.1860) galvanometer and a 120Ω Simplex relay

during this period, 2114 messages were handled.

This year two operators from the newly formed Morsecodians Fraternity of Western Australia *(Previously the Morsecoders of Western Australia. See MM49, p.5. – Ed.)* assisted at Alice Springs.

The usual open day for the townspeople, was again a tremendous success with a record crowd of over 1500 attending. On that day the station handled 375 messages, keeping the line open until 9 p.m.

At the Canberra end of the circuit, there is a new venue in the NSTC which is more conspicuous than the previous location and this resulted in increased interest and a consequent increase in the traffic lodged.

(Report from John Houlder)

Handbook of Radiotelegraph and Radiotelephone Codes, Prowords & Abbreviations

This new handbook compiled by John Alcorn, VK2JWA, for the Summerland Amateur Radio Club, contains a vast amount of material of interest to Morse operators. Examples of codes, etc., covered, to a fuller or lesser degree, are the Q & Z codes; radiotelegraph abbreviations; Phillips Press code; Reporting codes; an extraordinary range of phonetic alphabets from many countries; various numerical codes; the US Army General Service code, c.1860; foreign language Morse codes; and much more.

The author makes the point that the lists are far from complete, and requests that anyone who can help fill the gaps should contact him for the benefit of future updates.

This 84-page A4-size book is obtainable from John W. Alcorn, 33 Spring Street, Lismore, NSW, Australia 2480. The price, including postage, is A$14 in Australia; Elsewhere A$15 (surface mail) A$18 (air mail). Cheques, etc., payable to J.W. Alcorn, should be cashable in Australia. Payment by Visa and Mastercard acceptable.

New Vibroplex Double Keys

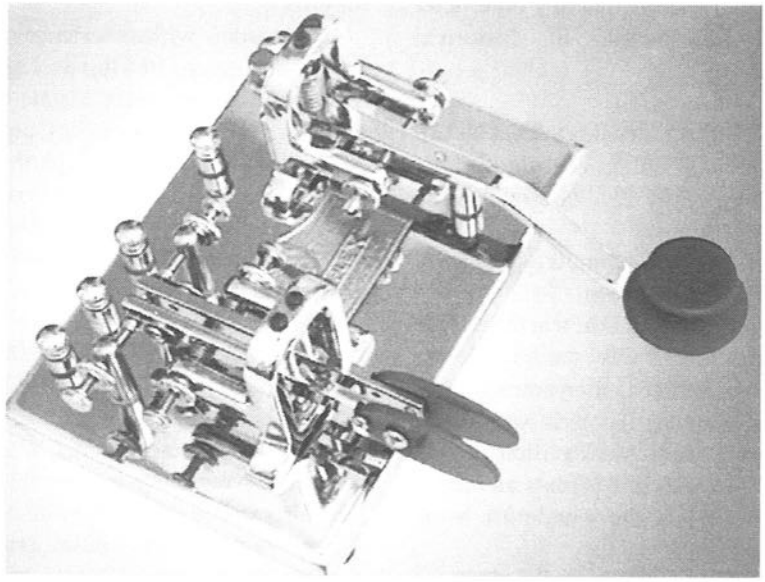
The Vibroplex Co., Inc., has added double keys to its range of Morse products. It has combined its new straight key with either the Vibrokeyer (single lever), or the Vibroplex Iambic, on a single base.

In a press release dated 1 July 1997, the company says: 'The Double key allows the operator to instantly switch from using an electronic keyer to the personal touch of a Straight Key ... The first keys manufactured will have consecutive serial numbers. Orders will be filled on a "first come-first served" basis so the early orders will get low serial numbers ...'

For further information, 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/

The Vibroplex Foundation Created

In a press release dated 10 July 1997, Felton Mitchell, W4OA, owner of The Vibroplex Co., Inc., announced the formation of the Vibroplex Foundation Inc., of which he is Executive Director. The Foundation has been formed to



The new Vibroplex Double Key, in this case featuring the Vibroplex Iambic plus Straight Key

encourage, promote and support activities related to the preservation of the history of telegraphy, with special attention to the role of the Vibroplex Co. Inc. in such history.

In this field, it will work to establish, operate and maintain a museum to own and display artefacts and historical material; hold seminars and classes; and give presentations to the general public.

The announcement continues: 'The Foundation will promote and conduct research and development to further the development of technical, educational and scientific information relating to all areas of telegraphy, with special emphasis on and attention to the role of telegraphy technology in assisting severely impaired individuals to communicate.

'... The Foundation solicits any telegraphy related items for its collection, including keys and any other telegraphic information of historical interest.'

CW at the Klondike Days Exposition

Dave Clarke, VE6LX, sent the following report on July 21, via e-mail, from Edmonton, Alberta:

'Hello from the Klondike Days 97 (Edmonton Exposition) "Talk To The World" booth, VE6KDA, which includes a fully functional CW station. We are having a great time demonstrating Amateur Radio to all the kids who come through the Kool-Aid Pavilion, giving the children and their parents an opportunity to explore the wonderful world of radio.

'The CW station really draws a crowd, as does the rest of the booth. When we have time to demonstrate the Morse Code it is quite a crowd pleaser. It seems very few people can comprehend that you can actually send and receive messages using this form of communication, and they are very surprised to learn that it preceded the telephone.

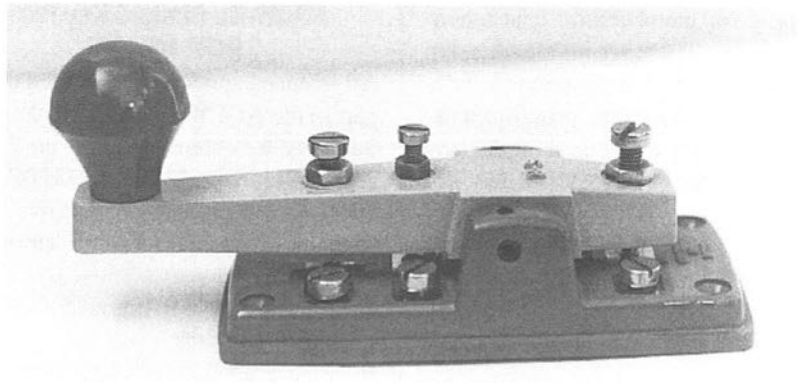
'Many of the children are very excited about the possibility of communicating with someone via radio. While it is extremely rare that children up to 8 years of age know Morse Code, their faces do shine as their names are flashed across the air waves and an answer comes back.'

After the Exposition, Dave reported that plans are already being made for the 1998 demonstration. He says 'We are looking at designing a whole table dedicated to CW. It must be a "touch, see and hear" type of display for young children 5–85 (five–eighty-five!) with all simulations larger and louder than life for effect.'

MM readers with experience of public demonstrations of Morse telegraphy, from landlines to today's state-of-the-art CW radio communications, are invited to send in details of particularly popular features they have experienced. Advice or tips that might help Dave and his colleagues plan for next year's Exposition will be very welcome.

New Editor for SCAG Newsletter

MM reader Jens Henrik Nohns, OZ1CAR, took over the post of editor of the SCAG (Scandinavian CW Activity Group) Newsletter in June this year. Jens also writes the 'CW hjørnet' (CW Corner) in the *OZ-magazine*, journal of the Danish national radio society, EDR. *MM* wishes him every success in his efforts to promote CW in Scandinavia.



The 'S-R Cotel' key manufactured by the late Jack Sykes G3SRK

Collection: Jim Lycett. Photo: Tony Smith

G3SRK SK

We regret to report the death of Jack Sykes, G3SRK, on 18 June 1997 at the age of 95. A good friend of *MM* from the beginning, his entertaining stories about his early career as a ship's radio officer, and his subsequent varied life in the United States, enhanced some of the earliest issues of both the Dutch and English editions of *MM*.

Under the business name of Lingards Electronics, Jack was the manufacturer of the so-called 'S-R Cotel' key, claiming in MM1, in 1986, when still making keys at the age of 84, 'There are now 50 000 of my keys all over the world.' *T.S.*

QSQ Wireless Telegraph Society Formed

QSQWTS was formed in South Africa by Roger Gould-King, ZS6QL, to promote the interests of CW and its exponents at all levels. The title 'QSQ' derives from the 1917 meaning of that Q-code: 'You are being called by…; and the Society's motto 'Less is More' symbolises the economy of Morse code in terms of equipment, power and greater efficiency.

The society has a wide range of aims and proposed activities, including the promotion and defence of CW in amateur radio; participation in historical and current research; publication of a newsletter for members; establishing a national and international emergency network using CW; providing tuition (including broadcasts on HF and VHF), and examiners, for those wishing to take the amateur Morse test; establishing Society networks for members at speeds suitable for their abilities and needs; affiliation to other organisations promoting and supporting CW in amateur radio; encouraging the design and construction of amateur CW equipment; and teaching and implementing advanced computer technological applications in CW.

QSQWTS acts as a facilitator and is not a club. Individuals or entire clubs

can apply for membership. It is a non-profit society. There are no membership fees except suggested donations to cover the costs of materials, printing, postage, etc., but no member is under any obligation whatsoever to offer any donation.

For further information, contact Roger Gould-King ZS6QL, PO Box 167540, Brackendowns 1454, Republic of South Africa.

UK Customs Charges on Key Exchanges

Collectors may be interested in the experience of a UK reader who was recently charged Import Duty of 3.2 percent, plus Value Added Tax of 17.5 percent, on a telegraph set valued at $300.00 he received in exchange for a key he had sent to another reader in the USA.

After querying these charges, he received a letter from HM Customs & Excise explaining that such items cannot be considered as gifts. He had received the set in exchange for another item, so it was considered he had paid for it indirectly and was therefore liable for duty, etc.

It is understood that only items declared as gifts, and valued at less than $50.00, are free from such charges. Import Duty and VAT is payable even on gifts with a declared value of more than $50.00.

Readers arranging to exchange keys, etc., through advertisements in *MM*, should therefore be aware of the possibility of such charges when assessing the value of their items for exchange purposes.

AGCW-DL Straight Key Party (HTP 40) 1997

All licensed amateurs are invited to take part in the AGCW Straight Key Party on Saturday 6 September 1997, on 7.010–7.040MHz, from 1300–1600 UTC.

Call: CQ HTP. **Mode:** 2xCW, using straight keys only and no automatic readers!

Categories: A – Maximum 5 watts output (or 10W input)

B – Maximum 50 watts output (or 100W input)

C – Maximum 150 watts output (or 300W input)

D – Shortwave Listeners.

Exchange: RST + Serial Number/Category/Name/Age (XYL=XX), e.g., 579001/A/Tom/25; 579002/C/Mary/XX

Points for QSOs: A with A = 9, A with B = 7, A with C = 5, B with B = 4, B with C = 3, C with C = 2.

Logs: To include time (UTC), band, call, RST, category, calculation of points, description of rig used, and a formal declaration that a straight key only has been used. SWL logs to include both callsigns heard and at least one RST for each QSO logged. Logs to be sent to Friedrich Wilhelm Fabri DF1OY, Grünwalder Str.104, D-81547 München, Germany, by 30 September 1997.

Results: For list of results send self-addressed envelope +IRC to DF1OY.

(Information from AGCW-DL)

Straight Key Evening

The annual SKE organised by the Edgware & District Radio Society will be held on Friday, 19 September 1997, from

to facing page >

Readers' ADs

FOR SALE

Q & Z Codebook still available. The MM Q & Z codebook, a comprehensive list of the Q-codes and Z-codes, including a one-page list of the original Q-codes dated 1912, is still available. Printed in English, it can be obtained from Dick Kraayveld PA3ALM, Merellaan 209, 3145 EH Maassluis, Holland, price £5 UK, or US$10.00 outside UK, including postage in both cases. Payment accepted in cash only.

Photocopies of back issues of MM. All out-of-print issues available. Price per copy, by airmail (US dollars, cash only): Europe $7.00; Africa/America $8.00; Oceania $10.00. Jeronimo Orellana R, EA3DOS, Av Roma 10, 08015 Barcelona, Spain.

(Note: Original copies of some back issues are still available from the editorial office. See inside front cover. – Ed.)

18-page Illustrated list all kinds of telegraph related items surplus to my needs. $3.00 plus equivalent of 4 US stamps ($5.00 refund on $25 purchase). Dr. Joseph Jacobs, 5 Yorktown Place, Fort Salonga, NY 11768. Phone: 516-261-1576. Fax: 516-754-4616. E-mail: joekey@aol.com

WANTED

Schematics of the following McElroy equipment: Morse tape transmitter XTR 442 and auto head MAH-142. Radio telegraph & signal recorder RRD 900-42. Also, anything that has to do with very old telegraphy. Fons Vanden Berghen, Lenniksesteenweg 462/22, B-1500 HALLE, Belgium. Tel: +32-16-38 27 21 (day) or +32-2-356 05 56 (late evening). Fax: +32-16-38 24 38. E-mail: fovabe@telindus.be

Keyboard tape perforator suitable for use with GNT tape sender. Chris Rees G3TUX, PO Box 88, Haslemere, Surrey, GU27 2RF. Tel: 01428 661501 (international +44 1428 661501). E-mail: g3tux@compuserve.com

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News (continued)

around 1800hrs GMT. Frequencies around 3.560–3.580MHz. Call, CQ SKE. Special Event Club Station GB2SKE will be operational, also G3ASR (the Edgware Club station) and possibly G4IUZ/P.

For further information, contact Stephen Slater G0PQB, EDRS Publicity Officer, 24 Lullington Garth, Borehamwood, Herts WD6 2HE, England.
(Information G0PQB)

Arolish

by Roger Gould-King ZS6QL

WHEN SAMUEL MORSE constructed his original code, he based it, according to legend, on the number of letters he found in the local printer's tray. To evaluate how well Morse's code fits modern English, I extracted several million words from our English language news stories, thousands of which are generated on our computer systems daily, and reduced them to letter frequency

These break down into the following major groups :

EINATSRO	64.96%
LDCU	15.72%
MPGBH	12.31%
FYV	4.44%
WKXJQZ	2.57%

so, by learning just 8 letters, a person could cover about 65 percent of the English plain language of 1997.

Changes Over the Years

The problem with this kind of estimate is that languages change with time and place. This can be seen when we compare the order of frequency of letters for different years or circumstances *(see table on next page)*.

The order of the letters of American Morse is that found by Morse in a printer's shop over 150 years ago, which presumably reflected a local newspaper's idea of what was needed for the American English of that era. Interestingly there was little change between 1837 and 1907, but 90 years later the list is changed substantially.

Morse's code is now out of synchronisation with the English usage of 1907 and earlier and no attempt has ever been made to bring it into alignment with the necessities of the times.

Arolish

It is important to bear in mind that in discussing Morse Code in this way we are addressing the needs of plain language communications, and not the abbreviated patois of modern CW usage, which I have dubbed 'Arolish' (Amateur Radio Operator's English) for want of a better term.

Arolish as used in CW, because of the abbreviations used for common words, has an entirely different frequency distribution to plain language. The distribution shown above, however, is based on the most commonly used abbreviations in CW, and not on actual CW conversations.

American Morse:	E T I A N O S H R D L U C M F W Y G P B V K Q J X Z
1907:	E T A I N S O H R D L U C M F W Y G P B V K Q J X Z
1997:	E I N A T S R O L D C U M P G B H F Y V W K X J Q Z
Arolish:	R T G S C E N X M W A U B F K L P D H I O Q V Y J* Z*

*used infrequently apart from in callsigns.

Like 'HI HI' which was originally 'HO HO' in American Morse because the O was two dits spaced; and the so-called 'ES', which is actually '&' in American Morse as a single letter with the characteristic space, actual language use by an individual operator will slant the letter frequencies one way or the other.

What is the Objective?

For the individual wanting to learn International code for his or her amateur radio certificate, the basic problem is one of knowing whether he/she will continue with the code as a main means of communication, or whether the objective is merely to pass the test and get on with SSB.

This is an important consideration because it will determine the method of learning and also the nature of the test. Learning Arolish will speed up word recognition rather than the traditional method of battling with individual letter sounds and gradually building up speed over a period of time.

Reason for Disenchantment

The problem with learning the code in plain language is that when the time comes to get on the air, the letter frequencies will be different with Arolish, and the learning curve will be steeper because the initial learning method was designed for something other than the language to be used. This I suggest, is one of the main reasons why newcomers to CW become disenchanted – they are faced with an entirely different set of rules.

I suggest the best approach is to learn the letters in whatever manner makes sense to the learner, and then concentrate on Arolish groups as 'words', learning the 50 or so most commonly used CW abbreviations at a minimum of 20 wpm.

In sending, the letter speed is maintained, but with Farnsworth spacing so that 12 wpm is easily received, there being plenty of 'recognition time'. The important thing is to build up letter group recognition so that 'words' like 'CQ', even when sent at 50 wpm, are instantly recognisable.

Test Based on Arolish?

In the UK the amateur Morse test is already based on Arolish, but many other countries base their tests on plain language. To encourage those who pass the test to at least try their newly acquired code on the air, instead of immediately forgetting all about it, perhaps the Morse lobby in such countries should be trying to get the test changed to an Arolish base, as we are in South Africa? ***MM***

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Morse Learning Methods

Part 3 – 1941 to 1943

by Tony Smith

THE BOOKLET *The Morse Code – Learning & Practice*, written by R.G. Shackel, MA, was first published by Longmans, Green & Co. Ltd, London in 1941, priced at one shilling. It claimed it would be of great use to the Air Training Corps, to members of the Services learning Morse, also to those awaiting recruitment 'who wish to prepare themselves by learning the code.'

This system emphasised the need to think of the letters in terms of sound. It also used phonetics for some (but not all) letters when spoken to avoid them being confused with similar sounding letters during the learning process.

A was to be pronounced 'Ack' to distinguish it from J and K which were pronounced normally. C was pronounced normally, but other letters with a similar sound had phonetic pronunciation, i.e., B – Beer, D – Don, P – Pip, T – Toc, and V – Vic. M was Emma to distinguish it from N, which had no phonetic, likewise S was Esses to distinguish it from Z.

The book refers to the method of learning code by groupings of similar and opposite symbols, EISH, P and X, etc., but discards this approach in favour of learning the code alphabetically.

It breaks the alphabet down into four groups of letters, ABCDEFG, HIJKLMN, etc., followed by numbers 1 – 5 and 6 – 0, to be worked through progressively using exercises provided.

The author suggests that two beginners can quickly learn the code by saying the sounds of each symbol (e.g., Ack as d' dah, Beer as dah d' d' de, C as dah d' dah de) to each other. As soon as they are learned, the symbols are to be practised by key and buzzer or the sounds spoken. In yet another example of early 'Farnsworth', learners are advised to send or say the symbols quickly with long intervals between them, about 6 seconds at first.

There are a number of timed tests provided, ranging from 2 to 12 w.p.m., with letter, figure and mixed groups, and message texts. The latter are very much a reflection of the times, e.g., 'Mines located in western channel', 'Raider hit, out of control, pilot baled out', 'Target located – bombing successfully completed.'

The learner is progressively introduced to punctuation and procedural signals through these messages, and is

Pocket Signal Disk, 1941

Tom Perera, K2DCY, sent an original 'Pocket Signal Disk', dated 1941, from Standard Novelty Co., La Jolla, California.

Claimed to be prepared 'in accordance with official standards', this device offered 'basic instruction and review in the principal code alphabets of the United States.'

These included the international Morse code, Semaphore, International flag code, air-ground code (USA), arm and hand signals and a cipher translator for secret messages, using the disk instead of printed forms.

INSTRUCTIONS

The Pocket Signal Disk is designed to facilitate the learning of the Standard Signal Codes. *The beginner should study the selected Code, then as a TEST turn the corresponding wheel and endeavor to call the meaning of the characters as they appear in the opening.*

INTERNATIONAL MORSE CODE

This code is used for signaling with the hand flag, torch, lantern, flashing light, radio and sound.

SEMAPHORE

A universal system. The miniature characters are presented as they are actually seen when receiving. The Army and Navy systems are the same except as noted. The "End of Message" sign applies to the Army Code.

INTERNATIONAL FLAG CODE

The Alphabet Flags are plainly illustrated on the wheel of the disk. The numeral Pennants appear on the face of the disk below. By turning the wheel the flags appear opposite their spoken meanings as shown in the opening to the left. "A"—Afirm; "B"—Baker, etc.

PANELS—AIR GROUND CODE. U. S. A.

Included for ready reference. Consult Basic Field Manual for full instructions and procedure.

ARM AND HAND SIGNALS

The characters appear at the top of the disk opposite a respective number. The meanings corresponding to the numbers are printed on the face of the disk.

CIPHER TRANSLATOR

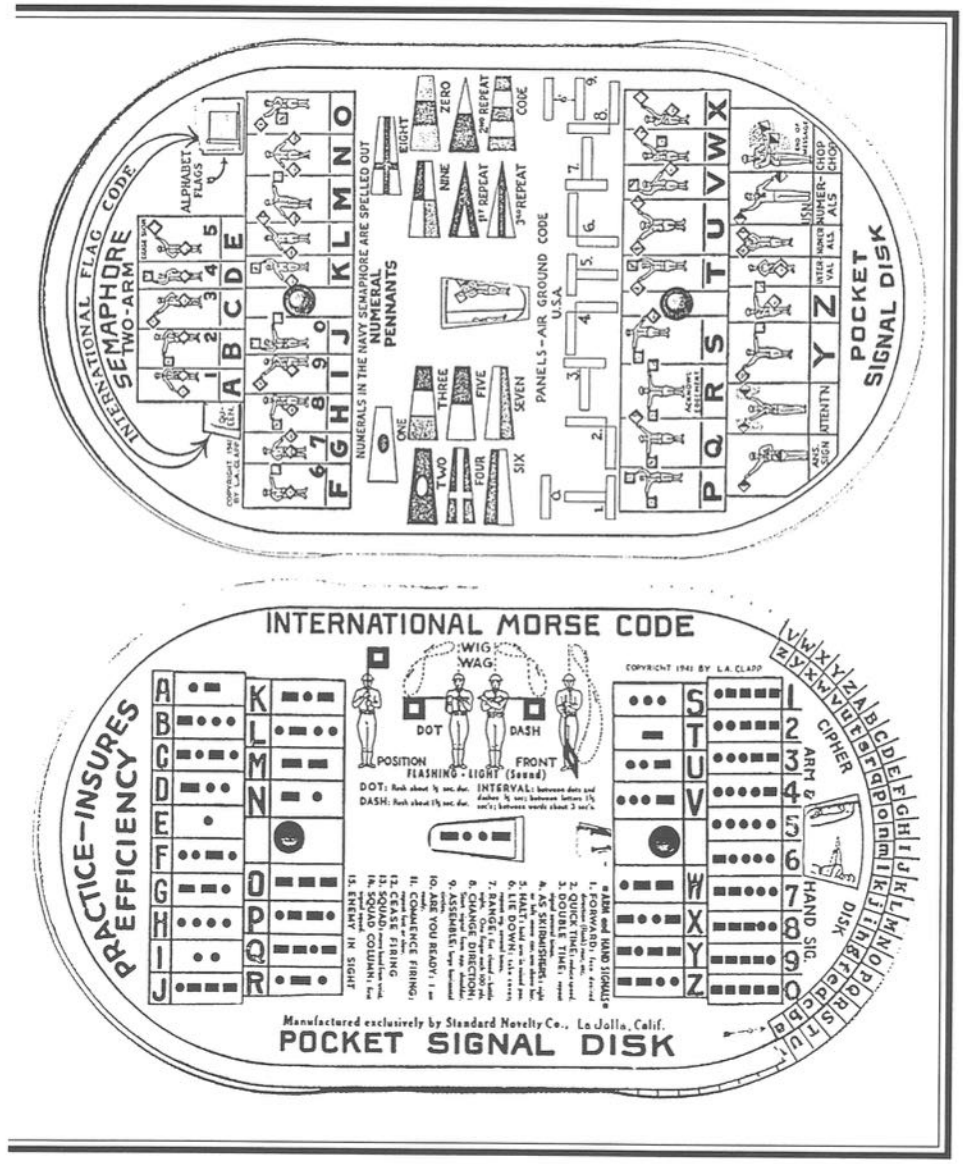
Especially adaptable for boat use. By using a key letter messages may be coded or decoded from the disk without the use of printed forms. Designed for drill purposes, it is obviously useful to subordinate groups.

Students will refer to their respective Service Manuals for Secondary meanings, Special Flags and Procedure.

Instructions for use printed on the protective sleeve (above) and views of the flag and Morse sides of the disk itself (opposite)

also provided with an abbreviated list of Q-signals.

This 64-page booklet contains the most comprehensive learning course of those mentioned in this series and, in its time, I imagine was quite helpful for those who wanted to learn Morse before they entered the armed forces. My thanks to Wyn Davies for the loan of this publication.



Morse in 7 Days Without an Instructor, 1942

This book, written by H.O. Lewis, of Carisbrooke, Isle of Wight, Chief Signalling Instructor of the Vectis Squadron, ATC, was published for The English Universities Press Ltd by Hodder & Stoughton Ltd., price 1s. 3d. The claim to teach the code in seven days is based on seven lessons, one to be mastered

each day, covering the alphabet only. Thanks to Douglas Byrne, G3KPO, for providing the following details of the course.

Lesson 1 simply runs through the alphabet to emphasise that each letter is represents by the sound of dits and dahs. Students are then asked to learn A and Z by the following day.

Lesson 2 teaches T M O, mixes them with A and Z previously learned and provides practice for these letters in 5-letter groups. Already, the student is using a key and buzzer to practise sending these letters. Advice is given in the book on setting up a suitable practice set.

Lesson 3 covers E I S H, followed by the opposites, U and D, and V and B.

Lesson 4 goes back over U and D, and V and B, mixes up everything learned so far, and again there is sending practice.

Lesson 5 starts with sending the opposites F and L, and K and R, and begins to make up plain language from the letters learned so far.

Lesson 6 introduces more opposites, G and W, and P and X, which are practised on the key and buzzer. All 21 letters learned so far are now practised on the key.

Lesson 7 brings in the last five letters, C J N Q Y, and so the alphabet is mastered in just seven days! Then follows Lesson 8 covering all the numerals, all the foreign letters, and all the punctuation, in one go! There are then 13 useful exercise sessions to practice what has been learned.

Learning letters in groups of similar construction, and by opposites, was popular over many years. It is a system not favoured so much nowadays because it introduces an extra stage in the recognition process, but it is still to be found in a number of standard textbooks to assist in the initial stages of learning.

The book does emphasise that each letter should be identified as a sound, although there was still some time to go before the idea that students should not look at printed material at all, to avoid all images in their heads, became popular.

It's interesting, too, that as in R.G. Shackel's course, above, this book recommends using a key right from the beginning without the benefit of anyone present to advise on the proper way to use it. Nowadays it is more generally accepted that a student should be reasonably proficient at receiving before actually sending, although the actual speed to be achieved before this transition occurs is open to debate.

G.L. Automatic Senders

In 1942, the Gardiner-Levering Co. of New Jersey were advertising their Code Teachers and Automatic Senders with perforated tapes, running at speeds up to 60 w.p.m. Their advertisement (**shown on the opposite page**) explains what they did.

D.V. System

Jack Barker sent in a copy of *The Morse Alphabet – How to Learn it Quickly* by D.V., published by Toneart Ltd, London, 1942. This booklet recognises the criticism that mnemonics involve a double mental effort, making learning easier at first, but becoming a hindrance later.

International Code-Master, 1943

Jim Clark, of Mesa, Arizona, has sent a copy of the *International Code-Master*, published by King, Larson, McMahon, Chicago, 1943, which works on the 'buddy-system', with the sender and receiver seated facing each other. This was for learning flag signalling. The sender dialled the desired letter, etc., and the receiver would read off the signal displayed on the other side. Jim understands that this was used by the US Military for teaching both semaphore and Morse.

The D.V. System *(continued)*

It goes on to dismiss this criticism, saying the answer is that the learner very soon arrives at a point where the mnemonics have served their purpose and are discarded.

The mnemonic system it recommends seems quite complicated. The book claims, however, 'All these irregularities and misspellings, awkward as they may seem at the first glance, are in fact, aids to the memo-

ry, because they impress themselves on the imagination owing to their abnormality'.

The keyword given for each letter begins with the letter it represents. A vowel represents a dot and a consonant a dash. However, where the initial letter is a consonant when it should be a vowel that letter is put in brackets and must be ignored, for example (F)AIRY for F and (O)DDS for O.

To add to the confusion, the letter Y is used as a vowel (representing a dot) in all keywords, except the one for the keyword for Y itself (i.e., YANK), when it is used as a consonant (representing a dash)! To explain the more unusual words, the student is told that the keyword (H)OOEY is American, the keyword UIT (out) is from the Afrikaner word 'Uitspan', and this is in juxtaposition with (V)AAAL (from Transvaal).

The full alphabet is as shown on the next page. Note especially the keyword

for M – perhaps the author had a premonition that this expression would have a special connection with Morse in later years!

A	–	A.D.
B	–	BUOY
C	–	CODE
D	–	DEE
E	–	E
F	–	(F)AIRY
G	–	GNU
H	–	(H)OOEY
I	–	I.E.
J	–	(J)ESTS
K	–	KIM
L	–	(L)IBYA
M	–	M.M.
N	–	NO
O	–	(O)DDS
P	–	(P)ENNY
Q	–	QVID
R	–	(R)ELY
S	–	(S)OYA
T	–	T
U	–	UIT (out)
V	–	(V)AAAL
W	–	(W)ASP
X	–	(X)RAYS
Y	–	YANK
Z	–	ZZOO

Once the system is understood, claims the author, a further single reading of the alphabet is sufficient to memorise it. 'It need hardly be said that as soon as a fair degree of proficiency has been attained, the keywords will fall into disuse, a stage to be aimed at as rapidly as possible…'

To be continued

Short Break

The Telegraph

There are three agents, which, from the rapidity of their propagation, are employed for telegraphing – sound, light, and electricity.

Sounds, such as those of bells, guns, &c., form a convenient means of sending a single message through short distances. Light and electricity immeasurably exceed sound as a ready, rapid and certain means of telegraphing through long distances.

Light, though an extremely rapid, is by no means a docile agent. It proceeds in straight lines, and will not bend round the ball of the earth, or inequalities on its surface.

The semaphore, which was an ocular telegraph, illustrated this. Towers had to be erected in prominent positions, within sight of each other, and the signals, which were made by arms on top of them, had to be retransmitted at every station. A large and well-trained staff was necessary to observe and transmit, and withal the work was slowly done. In foggy weather, moreover, the semaphore was useless.

Electricity, which rivals light in speed, is most docile and trustworthy as a telegraphic agent. It silently wends its way in all weathers, over plain and mountain, across sea and land, and delivers its message in the office or parlour almost at the precise instant it was sent.

From Electricity, *by Robert M. Ferguson, published by W. & R. Chambers, Edinburgh, 1887.*

Morsum Magnificat

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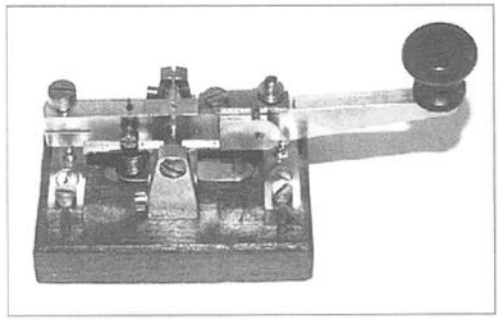

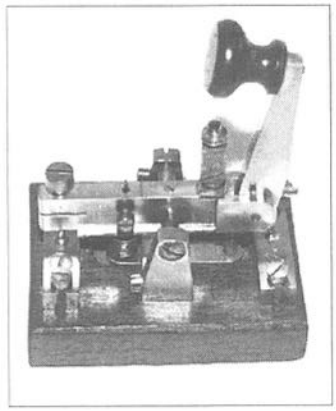

Folding key. Info requested

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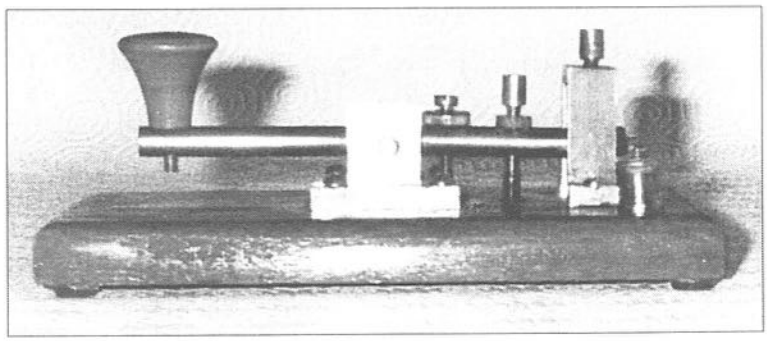

Unknown key with round brass lever. Contact at rear, at top of bridge. Gap adjustment between bearing and spring adjuster. Knob appears to be Boxwood. Not original base. No name or other markings. Info requested

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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*

Origins of the El-Bug

by Pat Hawker G3VA

RECENTLY BRIAN GRIST, G3GJX wrote to me about the excellent working replica of the 1950 OZ7BO el-bug and paddle which he has built as a trip down memory lane *(see page 38 of this issue. – Ed.)*. He has used components of the authentic period furnished with the help of members of Guildford & District Radio Society and RSGB members who responded to an appeal in *Radio Communication*. His letter set me wondering when and by whom mechanical and electronic semi-automatic keys that sent strings of dashes as well as dots were developed.

My first experience of this type of key was in Germany in late 1945 when two of my colleagues in Special Communications – Roy Wilkins G2ALM and the late Johnny Bowers G4NY – built an el-bug based on a design by W2ILE which had appeared in *QST* in August 1944. This worked well but required a lot of diligence and practice to produce the good Morse of which it was capable. Was this, I wondered, the first practical el-bug design?

Inhibiting Factor

I determined, with the aid of my own limited library and the back copies of *QST*, etc., at the Science Museum Library, to trace when and by whom such keys developed – at least for radio amateurs. Clearly any semi-automatic key sending both dots and dashes involves the inherent problem that while a string of dots has the spaces between each dot equivalent to the time of the dot, the time between dashes three times as long is still only that of a dot.

This factor inhibits the simple use of two vibrating arms, one timed for dots the other dashes. Without added complexity such an arrangement cannot produce a correctly spaced series of dashes or mixed dots and dashes. Nevertheless a number of mechanical keys were manufactured and at least one design for home construction appeared in 1942 in *QST*, during a period when amateur activity in Europe was quiescent 'for the duration'.

Electro-Mechanical Keyer

QST (April 1939, p.122) under 'New Apparatus' noted and illustrated a new keying device 'The Moto-Key'

manufactured by Howard F. Mason of Seattle. The mechanism included a 110-volt AC induction motor which was geared through speed-changing cones to a spindle carrying two pairs of friction discs. Associated with these discs or clutches were two cams, one for sending dots and spaces and the other for sending dashes and spaces. A description of this key, including operating notes, was carried in MM47, p.38.

It was claimed to be impossible to run characters together by cutting spaces too short, but in other respects the space length had to be controlled by the operator. Speed was at an enforced even rate, adjustable between 18 to 40 wpm. No price was given and clearly such a key would not have been within the reach of many amateurs. It must also have been difficult to achieve perfect spacing for characters containing mixed dots and dashes.

Two 'Bug-type' Arms

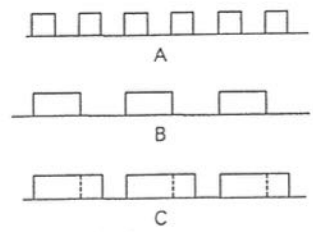
'New ideas on semi-automatic keyers – a symposium of recent designs for automatic dots and dashes' in *QST* (March 1942, pp.34-38) included details of 'A mechanical semi-automatic key for both dots and dashes', built from junk-box materials by R. S. Naslund, W9ISA: **Fig. 1**.

He showed that it was possible to build a key based on two correlated vibrating 'bug-type' arms members. The dash arm was adjusted to provide 'dashes' just twice the length of the 'dot' but an ingenious reversing lever meant that an extra dot was added to the dash whenever the paddle was moved to the left, but only the dot vibrating arm was actuated when the paddle moved to the right.

W9ISA admitted that the key required more operating pressure than a conventional bug because of the extra weight which had to be moved, only partially offset by the fact that less effort was required in making dashes. He claimed that the key could be adjusted for speeds from 20 to 40 wpm by moving the weights, although the positions needed 'notching' so that the two-to-one time ratio was maintained without undue adjustment. To change speed both weights had to be moved to predetermined notches.

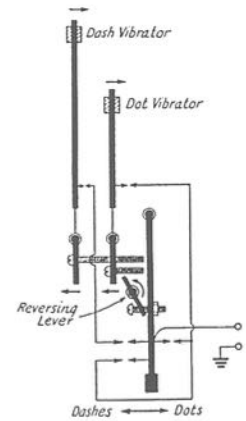
Melehan Valiant

The W9ISA key was a prototype, but the *QST* survey included another



A: Characters formed by the dot vibrator.
B: Characters formed by the dash vibrator.
C: Proper dash characters formed by combination of both vibrators.

Fig. 1 - W9ISA key (QST, March 1942)



Sketch illustrating the constructional principles of the "bug" for both dots and dashes.

mechanical key with two vibrating strips that was placed in limited commercial production by Melvin E. Hanson, W6MFY. Named the 'Valiant' key, the dash vibrator was about twice as long as the dot vibrator to slow down the rate of vibration.

The moving dash contact was mounted on a much longer spring of greater flexibility than the dot contact. This, it was claimed, permitted the dash contact to remain closed over three quarters of the vibration cycle and open over a quarter of the cycle, providing the required proportioning of dash and dash-space lengths.

Claimed as being capable of speeds over 60 wpm it was, once again, recognised that satisfactory operation required the development of timing habits of greater accuracy than with a conventional semi-automatic bug key.

Electronic Oscillators

The 1942 survey also included details of a motor driven 'Equable Key', developed and marketed by W.R. Starkins of Rochester, NY. From the details given this key appears to have been basically similar, in the use of friction-driven keying wheels, to the 'Moto-Key' described above. However this key incorporated a dual-paddle similar to the much later electronic 'squeeze keyers'.

But by 1942, mechanical keying wheels and vibrating arms were already being threatened by electronic oscillators.

The first reference that I have been able to trace to this technique is in *QST* of February 1933 ('A VT Bug') in which a vacuum-tube (valve) oscillator was used to make the dots of an 'electrical bug key'. This was presented as one of several experimental ideas and was possibly translated from a German amateur radio journal since it is shown as 'an adaptation by Cristoph Schmelzer, D4AAR of a similar device originated by H. Evertz'.

As shown in **Fig. 2**, the VT bug used a conventional audio transformer in a blocking oscillator configuration, using a triode valve in conjunction with a high-speed keying relay capable of closing

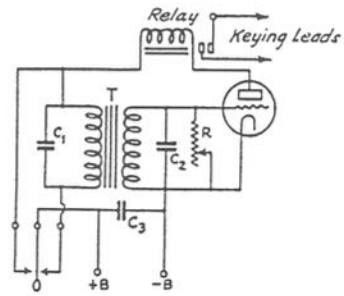


Fig. 2 - A 'VT-bug' (QST *1933)*

with a current of a few milliamperes (it was noted that 'A high-resistance telephone relay will be OK in most cases.' It was claimed that keying speeds between 4 and 30 wpm were possible with dot/space timing under the control of a 100kΩ variable resistor.

True Originator?

The first report in *QST* of a practical electronic keyer capable of making both dots and dashes, was by Harry Beecher, W2ILE of Milltown, NJ. In *QST*, April 1940, his article 'Electronic Keying' (pp.9-14, 110) was sub-headed 'An electrical "bug" which makes both dots and dashes'.

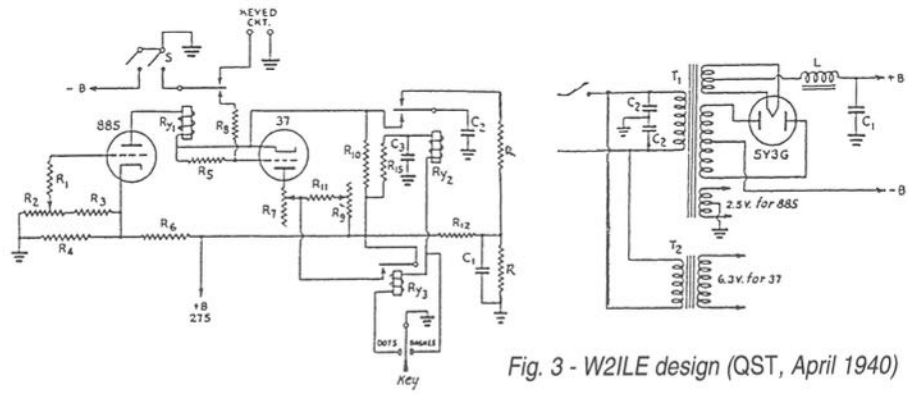


Fig. 3 - W2ILE design (QST, April 1940)

W2ILE provided an excellent survey of the basic requirements of el-bugs as well as full details of the prototype keyer shown in **Fig. 3**. This used a miniature 885 gas-filled thyratron as oscillator in association with a triode valve to sharpen up the discharge time, introducing the important concept of a 'break' as well as a 'make' relay. His design required three high-speed relays to make it possible to use a simple dot-dash paddle.

Harry Beecher, W2ILE deserves to be recognised as the true originator of the practical electronic keyer unless someone can find an earlier article in some other publication which seems rather unlikely.

Inexpensive Approach

The following month, George Grammer, W1DF, technical editor of *QST*, presented 'An inexpensive electronic key' based on the W2ILE design but using a three-pole, double-throw spring switch as a keying paddle in order to eliminate the need for two out of the three relays used by Harry Beecher.

W1DF stated that this keyer represented an attempt to get the cost down to a minimum, without sacrificing too many of the advantages inherent in W2ILE's original model. While (as I can testify) it is possible to use manual key switches to send Morse, this is far from ideal even as a cost-cutting exercise.

Four Ways of Keying

In the '30s and early '40s, the main rival to *QST* was the West Coast magazine *Radio* which could call upon many excellent amateur and professional-engineer contributors. The April 1941 issue included an article 'A versatile electronic key of low cost and simple design' by G.W. Gunkle of the US Coast Guard Radio Station NMQ, in California.

This used a blocking oscillator based on an audio transformer and a 6F6 valve akin to the VT bug of D4ACR, but with the frequency controlled by separate resistors in the cathode circuit, and a single relay in the anode circuit: **Fig. 4**.

Four separate key jacks were provided: J1 for use with a conventional bug with the dots formed mechanically, but providing electronic dashes; J2 gave electronic dots but mechanical dashes

(i.e. electronic bug); J3 auto dots and dashes; and J4 for direct manual keying. However, unlike the W2ILE design, no mention is made of any provision or adjustment to achieve correct spacing of dashes which must have depended on the characteristics of the blocking oscillator. This design must have required very precise manual timing.

Over-optimistic Claims

The March 1942 *QST* survey included an item by H.B. Savage, W4GRB on 'Improved switching arrangement for simplified electronic key' which showed how the W1DF design, based on that of Harry Beecher, could be improved by replacing the spring key switch by a home-made paddle using multi-contacts made from a defunct PSU vibrator unit, which must have been a decided improvement over the rather stiff Yaxley switch.

As W4GRB put it: 'The results will be something which closely approaches the usual bug in handling and which does not feel like a wrestling match with a clock spring.'

In March 1944, with amateurs still off the air, *QST* returned to the subject with two articles under the heading 'New electronic-key circuits'. An editorial note claimed that 'The advantages of the electronic key, which makes automatically timed dashes as well as dots, are by now well known to most of us. Keys of this type not only lend themselves well to high-speed code work, but their operating characteristics are such as to make incorrect formation of characters almost impossible' – surely two rather over-optimistic claims!

Multivibrator-type Keys

Both articles were based on multivibrator twin-valve oscillators. 'An improved electronic key' by William L. Gardner comprised a twin-triode 6SN7 with a single keying relay and a twin-paddle key.

'Another multivibrator-type electronic key' by Chester H. Page, W3IKI, used two 50L6 valves and required only a single paddle and a less sensitive relay arranged so that a dash closed it for three units of time and then opened for one unit.

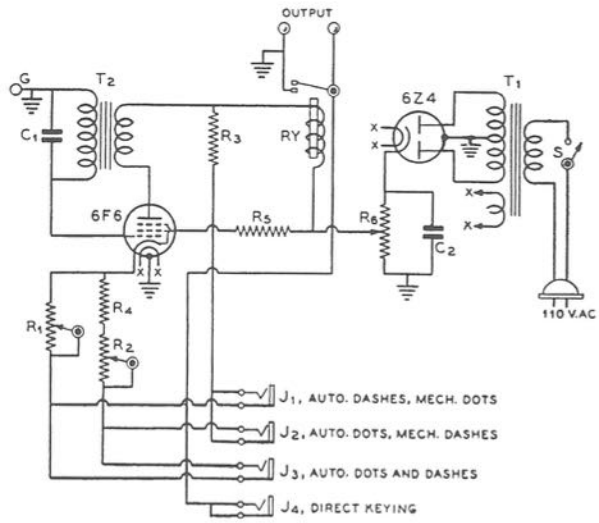


Fig. 4 - G.W. Gunkle design, with four ways of keying (Radio, April 1941)

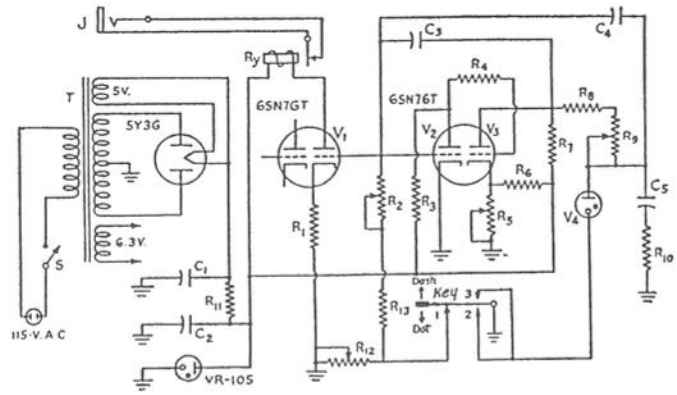


Fig. 5 - W2ILE 'better electronic keyer' (QST, August 1945)

C_1, C_2 — Section of dual 8-μfd. 450-volt electrolytic.
C_3 — 0.25-μfd. 600-volt paper.
C_4 — 0.01-μfd. 600-volt paper.
C_5 — 0.1-μfd. 600-volt paper.
R_1 — 1000 ohms, 1 watt.
R_2 — 75,000-ohm variable, 1 watt.
R_3 — 150,000 ohms, 1 watt.
R_4 — 250,000 ohms, 1 watt.
R_5 — 20,000-ohm variable, 1 watt.
R_6 — 15,000 ohms, 2 watts.
R_7 — 20,000 ohms, 1 watt.
R_8 — 50,000 ohms, 1 watt.
R_9 — 250,000-ohm variable, 1 watt.
R_{10} — 100 ohms, 1 watt.
R_{11} — 12,000 ohms, 10 watts.
R_{12} — 500,000-ohm variable, 1 watt.
R_{13} — 30,000 ohms, 1 watt.
T — Power transformer: 350–350 volts, 90 ma.; 5 volts, 3 amp.; 6.3 volts, 3.5 amp. (Stancor P-6012).
V_1, V_2, V_3 — Triode section of 6SN7GT.
V_4 — Type 991 midget neon voltage-regulator tube with bayonet base.
S — S.p.s.t. toggle.
Ry — Ward Leonard relay type 507–543.

Simpler and Less Expensive

'Simplifying the electronic key – a single-tube arrangement for automatic dots and dashes' by W/O Lawrence G. Wiley, ex-W9YDA used only half of a 6N7 and a single relay, although the relay needed to be of the double-pole, double-throw type to provide a break function.

An editorial comment pointed out that 'While it may lack some of the refinements of other units described in previous issues of *QST*, none of the essentials of a satisfactory automatic key for dots and dashes has been sacrificed. Yet it is much simpler to build and also less expensive than most of its predecessors.'

More Dependable

1945 saw the publication in *QST* of two further designs for electronic keys. In the March issue, Norman Snyder, W3HRD described 'A versatile electronic key' which featured a built-in keying monitor, with the key based on a 6N7 twin-triode. This keyer required a sensitive relay with three sets of contacts and was built around the 1944 design by Lawrence Wiley.

In the August issue, Harry Beecher, W2ILE, the pioneer of el-bugs, returned to the fray with 'A better electronic keyer' which offered more dependable semi-automatic dots and dashes with less need for precise adjustments than his original model. This used a 6SN7GT multivibrator plus one half of another 6SN7GT as

a character sharpener, with a VR-105 voltage regulator and a type 991 midget neon voltage regulator: **Fig. 5**.

W2ILE had earlier used a thyratron oscillator and had also experimented with the transformer-type blocking oscillator but considered the multivibrator the most satisfactory. I believe, although I cannot be sure (it may have been the W3HRD design), that it was this design that G2ALM/G4NY built in Germany and which I tried my hand on, probably in January 1945.

Final Major Step Forward

A major advance made by W2ILE in his 1945 design was to introduce the concept of self-completing dashes, making this el-bug much easier to handle than any of its predecessors. The advantages of self-completion were stressed more fully in the later and rather simpler 1948 design of W6OWP. There is no doubt that the W2ILE keyer performed well when correctly adjusted and used, and was accepted as a standard design for several years.

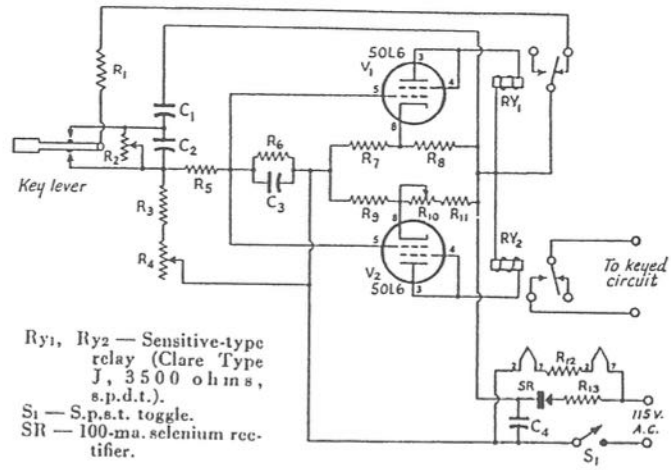
The final major step forward in valve-type electronic keyers should be attributed to F.A. Bartlett W6OWP, who described 'Further advances in electronic-keyer design – some new ideas in automatic keys' in *QST*, October 1948, pp.34-38) and to the European version of this design by OZ7BO.

Need for Other Features

Introducing a design which featured self-completing dots and dashes, single-control speed adjustment and a simple keying lever, W6OWP wrote: 'Heretofore, with one or two exceptions, the most important consideration in electronic-keyer design has been automatic dots and dashes. Several circuits effectively achieve this result ... (but) ... the need for other features ... has become increasingly evident.

'A common difficulty is the intraletter timing where a change from dashes

C_1 — 0.15-μfd. 600-volt paper.
C_2, C_3 — 0.05-μfd. 600-volt paper.
C_4 — 40-μfd. 150-volt electrolytic.
R_1 — 470 ohms, ½ watt.
R_2 — 0.5-megohm variable (dot-dash ratio control).
R_3, R_5 — 0.22 megohm, 1 watt.
R_4 — 2-megohm variable (speed control).
R_6 — 2.7 megohms, ½ watt.
R_7, R_9 — 2200 ohms, 1 watt.
R_8 — 10,000 ohms, 2 watts.
R_{10} — 5000-ohm variable (shaping control).
R_{11} — 6800 ohms, 1 watt.
R_{12} — 150 ohms, 5 watts.
R_{13} — 39 ohms, 1 watt.

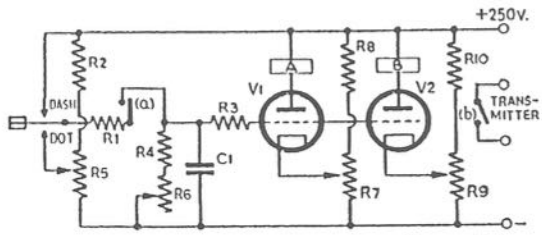


Ry_1, Ry_2 — Sensitive-type relay (Clare Type J, 3500 ohms, s.p.d.t.).
S_1 — S.p.s.t. toggle.
SR — 100-ma. selenium rectifier.

Fig. 6 - W6OWP keyer, with new features (QST, October 1948)

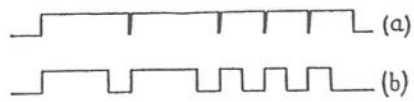
to dots is made. Unless the last dash is timed correctly, clipping results and our machine-like fist does a disappearing act. On dots, there is a fifty-fifty change of hitting timing correctly, but on dashes the chance for error is multiplied by the increased mark-to-space ratio. This critical timing is eliminated when dots and dashes are self-completing, and the key lever serves only to start each dot or dash.'

W6OWP showed (**Fig. 6**) that this principle could be implemented relatively simply and added a single-knob speed control, changing dot-, space- and dash-length simultaneously, an important new feature. His keying lever was a simple single paddle as used in semi-automatic 'bug' keys.



C1	·2 μF.	R6	1 megohm variable carbon type.
R1	500 ohms ½ watt.	R8, 10	35,000 ohms 5 watt.
R2	15,000 ohms 5 watt.	V1	½ x 6SN7GT (see text).
R3	2 megohms ½ watt.	V2	½ x 6SN7GT.
R4	200,000 ohms ½ watt.	A and (a)	" break " relay.
R5, 7, 9	10,000 ohms variable, wirewound.	B and (b)	" make " relay.

*Fig. 7 - OZ7BO keyer (*RSGB Bulletin, *February 1950)*



(a) Keying characteristics which would be obtained without the use of V2.
(b) Correct keying characteristics.

*Fig. 8 - Effect of using a 'break' relay with the second triode as a shaping valve, as used by W2ILE, W6OWP and OZ7BO (*RSGB Bulletin, *February 1950)*

Only two sensitive relays were required, one with a make contact, the other with a break contact. For operation from American 110-volt AC mains, he used two 50L6 beam-tetrodes (triode connected) with the heaters in series, thus eliminating the need for a mains transformer (not recommended for home-built equipment with 230V AC since it implies 'live-chassis' construction).

Shaped Operating Cycle

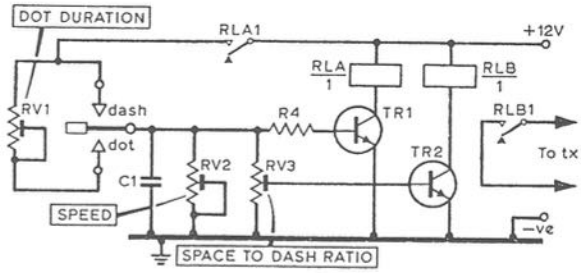
W6OWP based his design on the use of a stable, mechanically-triggered pulse generator requiring one triode rather than two for a multivibrator, working into a clipping circuit to shape the operating cycle of the keying relay in conformity with standard concepts of the telegraph code.

The two valves had their grids in parallel but with independent biasing to hold the idling grid voltage beyond anode-current cut off. To the grid circuit is connected an *RC* timing network which provides one of two time-constants as selected by the key lever.

The other side of this network is connected to the HT+ supply. The centre terminal of the keying lever also connects to HT+ via the back contacts of the 'break' relay. In operation the rate of all functions is governed by the timing network so that keying speed can be changed with a single variable resistor and the mark/space ratio similarly changed by a

variable (preset) resistor across the two lever switching contacts.

The two relays form the most critical components and needed to be identical and of fixed-adjustment, wiping-contact design with a high-impedance coil resistance suitable for valve operation. Almost any good telephone-type relays with proper contact and coil specifications were stated to be satisfactory. W6OWP acknowledged that a number of suggestions in his design had been contributed by a fellow Californian, A.R. Burns.



Transistorized version of the OZ7BO keyer. Component values are: C1 50 μF (25 volts wkg.); RV1 470 ohms skeleton preset; RV2 2500 ohms skeleton preset; RV3 10,000 ohms skeleton preset; R4 10,000 ohms ½ watt: TR1, TR2 BC108a.

Fig. 9 - G3JIS transistorised version of the OZ7BO keyer (RSGB Amateur Radio Techniques, 7th Edn.)

The OZ7BO Keyer

In Europe, Bo Broendum-Nielsen, OZ7BO, a highly-proficient CW operator, had followed the various published designs for electronic keyers but had found that the results had not always come up to expectations. That is until he experimented with the W6OWP design which, despite its simplicity, overcame many of the snags associated with the earlier circuits. Tests soon confirmed this although in order to make use of components readily available in post-war Europe, he made a considerable number of circuit modifications and simplifications.

He presented his results first in the February, 1949 issue of *OZ*, the journal of the Danish amateur radio society EDR. A number of Danish amateurs soon reproduced his excellent results. This encouraged Perry Scheller, OZ4FT and Jack Davis, G5XY to co-operate on producing an English translation which was published in the February 1950 issue of the *RSGB Bulletin* (pp.259, 260 and 262).

G5XY contributed information on telephone-type relays available in the UK, noting that the Post Office type 600 relay was satisfactory if fitted with high resistance coils: **Fig. 7**. Instead of the 50L6 valves with their high-voltage heaters, OZ7BO used a twin triode type 6SN7GT, pointing out that the 6SL7, ECC40 or ECC34 could also be used.

Twin triodes, such as the 6J6, which did not bring out their cathodes to separate pins were unsuitable. **Fig. 8** shows the effect of using a 'break' relay with the second triode as a shaping valve, as used by W2ILE, W6OWP and OZ7BO.

Incidentally, although not disclosed at the time, both OZ7BO and OZ4FT (still active) were important members of the highly successful Danish wartime clandestine radio organisation led by Lorens Duus Hansen, OZ7DU.

Some 30 years after its original publication the OZ7BO approach was used for a simple transistorised version, designed by Bob Heaton G3JIS, as shown in **Fig. 9**.

TVI Proofing

In the era of VHF television the slight spark at the relay contacts could result in TVI in areas of weak television signals. The January 1959 issue of the *RSGB Bulletin* (pp.322-3) included an article by E.H. Trowell, G2HKU 'TVI proofing and improving the OZ7BO electronic keyer'.

This included generous RF filtering of the relay contacts and coils, and also recommended the use of Post Office type 3000 relays which had twin contacts making them steadier in operation, being evenly balanced.

By then there were also a number of factory-built electronic keyers available in the UK, notably by Hallicrafters, and it was not long before keyers based on semiconductors began to appear.

These led in due course to today's top of the range compact integrated-circuit keyers, such as the Samson ETM9C-X3, which incorporates the circuitry and sophisticated features of the CMOS Super Keyer 3, which responds to commands sent to it in Morse code.

Major Contribution to Manual Telegraphy

Today, electronic keyers are largely taken for granted, but it seems appropriate to recall that their development in the 1940s represents a major contribution to manual telegraphy by radio amateurs, especially by Harry Beecher W2ILE, and F.A. Bartlett W6OWP and, in Europe, by Bo Broendum-Nielsen OZ7BO.

MM

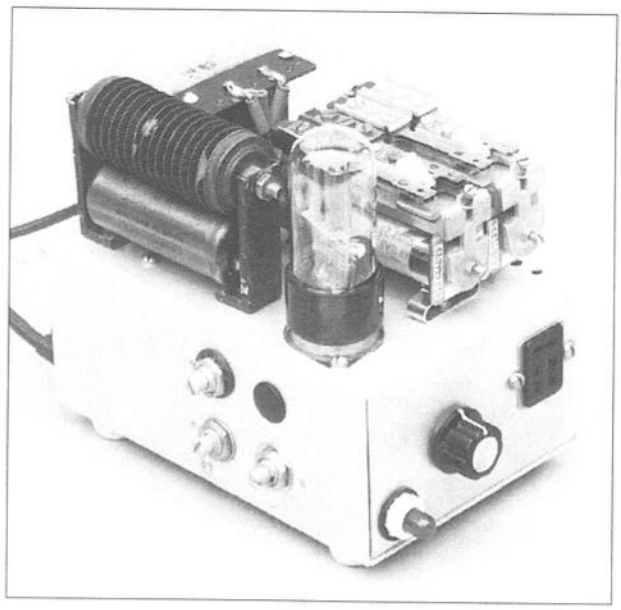
The OZ7BO Electronic Keyer

by Brian Grist G3GJX

Using authentic parts of the period, generously provided by members of the Guildford and District Radio Society and many other amateurs, the author has built a replica electronic keyer dating from 1949, together with a contemporary paddle key.

IN ITS DAY, the OZ7BO keyer was an immediate success, providing automatic dots and dashes in a way that mechanical designs could not equal. Thousands of similar units were built during the 1950s and 60s before being ousted by the arrival of the transistor.

In this design a double triode valve drives two 10 000Ω Post Office relays, with



Replica OZ7BO keyer made by Brian Grist G3GJX

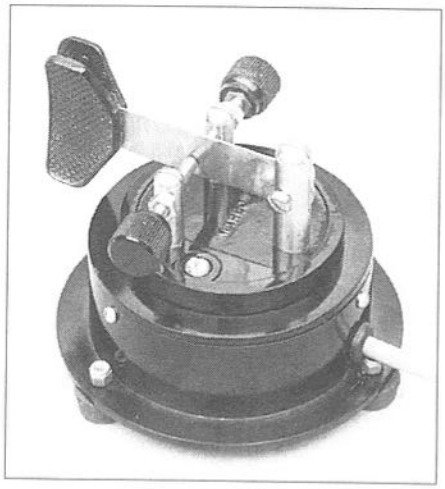
bias and dot-dash ratio set by three wirewound potentiometers. The speed control can be set between 5 wpm and 30 wpm (or higher with some sacrifice in dot length). The mains power supply is a simple transformer and half-wave selenium rectifier with choke and capacitor filtering.

The unit is built on an aluminium chassis which has an etched satin finish. All screws are BA, the wiring is in Systoflex and all resistors are correct for the period. The only inappropriate component is the PSU electrolytic – a 47-year old version being thought unreliable!

The keying paddle is a design popular at the time and is built on an upturned 15-amp 3-pin mains plug with round split pins. The base is an inverted meter case with its insides removed and replaced with a lead weight. In use, care is needed because the metal parts of the paddle are about 180 volts above ground!

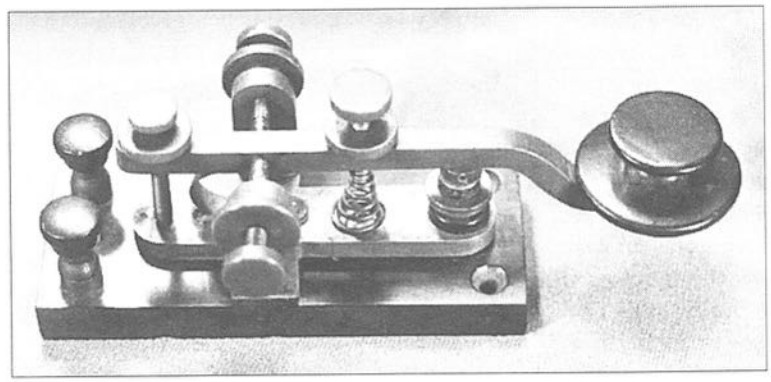
MM

(The circuit design for the OZ7BO keyer, and an explanation of its origins, can be found in Pat Hawker's article 'Origins of the El-bug', beginning on page 29 of this issue. – Ed.)



Replica keying paddle, of a popular design contemporary with the OZ7BO keyer, made by G3GJX

Showcase



Kilbourne Clark key, used by Howard Mason, 7BU, at station WFA in 'Little America', on the Richard Byrd Antarctic expedition of 1928-1930. Key donated by Howard Mason to Lynn Burlingame, N7CFO, who has dubbed it the 'WFA key'. He has designed a special certificate to confirm contacts made on the amateur bands using this historical instrument (see MM47 back cover)

Photo/Collection: N7CFO

THE MORSE ENTHUSIASTS GROUP SCOTLAND

MEGS was formed in 1991 to encourage the use of Morse, especially by newcomers. Regular skeds are held using our callsign 'GMØRSE' each Monday and Thursday from 7 until 9 p.m. (local time) around 3.530MHz. Among other services, we offer Morse practice tapes free of charge, other than postage. This offer is now also available to *MM* readers. Membership is open worldwide, the 'Scotland' in our title simply shows place of origin. Lifetime membership £1.00. **Details from Secretary: G.M. Allan GM4HYF, 22 Tynwald Avenue, Rutherglen, Glasgow G73 4RN, Scotland.**

G-QRP Club

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

Your Letters

Readers' letters on any Morse subject are always welcome, but may be edited when space is limited. When more than one subject is covered, letters may be divided into single subjects in order to bring comments on various matters together for easy reference

Scout Badges

In MM51, p.40, you asked for information about present day Scout signalling tests involving knowledge of the Morse code. At present I can only comment on Australian Cubs, as my son is only at that stage.

For the Green (highest level) Codes & Signals Badge, the Cubs have to (among other things) say who invented Morse Code and what is it used for. They have to make a flasher/buzzer and SEND a message of at least 10 words correctly. How this is judged I am not sure. The Cub book suggests learning by opposites, dots only, dashes only, etc.

Dr Peter Holtham VK4COZ
Chapel Hill, Queensland, Australia

Rhythmic Morse

I am an active Morse instructor and recommend my students to pound the rhythmic Morse phrase 'MISSISSIPPI SHIPS' repeatedly to warm up their fists prior to their formal practice.

The rhythmical wrist actions do really help the students because a spontaneous beat can be easily acquired and maintained once the palm muscles are relaxed by such Morse cadence.

Raymond Lee VR2UW
Hong Kong

Thank You Monika!

May I, through the pages of *MM*, thank Monika Pouw-Arnold who in MM35 (p.40) explained to me how to send the letter H and hence the figures 4,5,6, and the erasure signal, not by counting dits but by thinking of the word 'Mississippi'.

Armed with this I passed my Morse test early in June!

Thank you MPA and *MM*!

Martin Pirrie M0BBT
Radway, Warwickshire

Buzza Automatic Key

Referring back to the Australian Buzza Automatic Key No.100 illustrated in MM30 (p.25), Fred Ryan, VK1RY, and I have seen a few of these keys over the years.

Fred believes he remembers seeing one for sale in a shop window in Melbourne 'around 1938', which may be an indication of its vintage.

The number 100 must be the model number. I have one with the same number and have seen another similarly marked in recent years. They carry no distinctive serial numbers as far as I can see.

Allan Moore VK1AL
Canberra, ACT, Australia

Did SFBM Have Anything to do With It?

A county reunion is held in our small town each year on Memorial Day weekend, and includes a BBQ lunch prepared by the volunteer fire department. When I attended in 1993 I happened to sit by some folks having lunch who seemed to be speaking some foreign language. They used such words as 'repeaters', 'ohms', 'coax', 'bandwidth' ... things unfamiliar to me. Being of an inquisitive nature, I asked what they were talking about and was told they were amateur radio operators – hams.

This interested me since I was a telegrapher for the Santa Fe Railroad fifty years prior, at age 17, and still had my original Vibroplex bug. After discussing their hobby awhile, they invited me to visit their club meeting. I declined the invitation, inasmuch that I had other plans in the near future, but I told them I would keep it in mind.

Shortly after, I went to New Haven, Connecticut, to view the crypts where my Trowbridge ancestors were buried under the Church of the Green, the first having been buried there in 1687.

This turned out to be quite an exciting adventure. Not only did I find the names of my ancestors scattered throughout the church, including a Tiffany glass window given in memory of Ezekiel H. Trowbridge, but I found a brass plaque on the door leading to Pew No. 84 with the name of Thomas R. Trowbridge, another ancestor. A few pews down and across the aisle was a plaque on the arm of another pew – and this bore the name of Samuel F.B. Morse!

Were Thomas and Samuel friends? Of course they were. They attended the same church every Sunday.

Upon my return home, I attended my first radio club meeting that same month, passed my Novice test two months later and my Extra five months following that.

CW has become a way of life for me, and how I love it. Did Samuel F.B. Morse have anything to do with this? Was it fate? Coincidence? Whatever it was, for me it's CW forever, and I try to abide by the slogan sent by one YL to another – Keep the Shack Hot and the Kitchen Cold!

Macalee 'Lea' Hime AB5TY
Goldthwaite, Texas, USA

(Lea is controller of the Queen Bee Net on 7.038MHz, plus or minus QRM, at 8.30 a.m. and 8.30 p.m., Texas Time. She says 'Any YL or OM who likes honey-coated CW is welcome to check in'. The net has its own home page at http://www.centex.net/~macalee on the world wide web.)

Vibroplex Serial Numbers

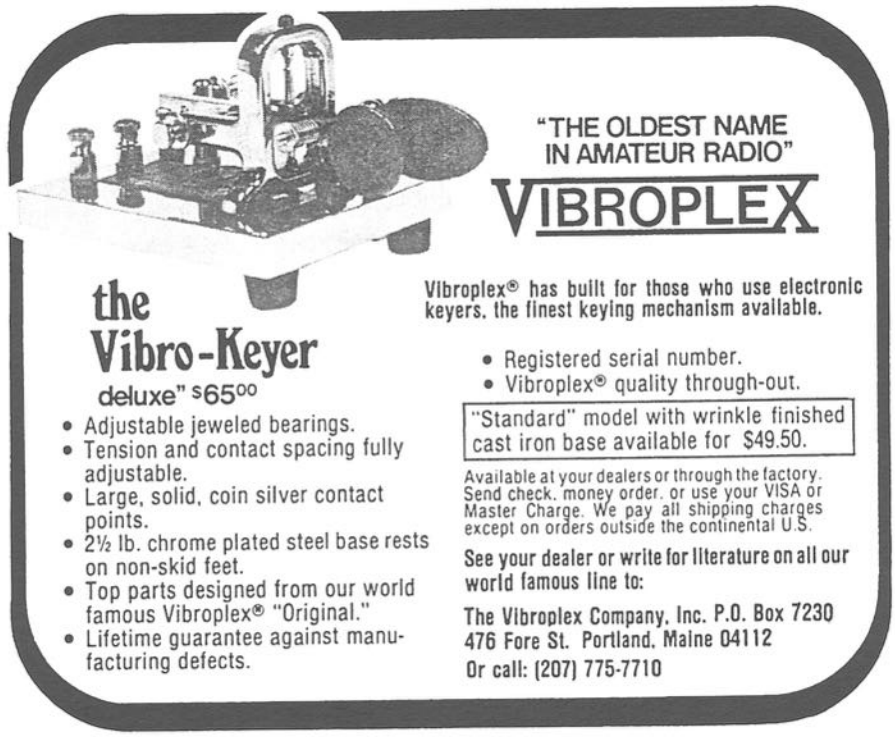
Vibroplex collectors/users may not be aware that at one time the makers registered the serial numbers of their keys, as evidenced by their advertisements in *QST*, July 1979, Sept-Nov 1979, and January 1980 *(see next page)*.

John N. Elwood WW7P
Phoenix, Arizona, USA

A Noisy Key

I should like to thank the readers who supplied the information on my unknown key and the origin of its hollow box base, in MM52 (pp44-45).

Tom Arris, who commented on its loudness in operation, might be amused



Vibroplex advertisement from QST, *January 1980*

to know that I found another of these keys on a junk stall recently which is even noisier than the first, the base being riddled with woodworm.

I'm sure the wormholes and channels add to the racket the key makes when in full flow, and I only use this key when my wife is out of the house!

Jack Barker
Surbiton, Surrey

CW Etiquette

Following recent correspondence in *MM* about the problems experienced by newcomers to CW when the other operator is sending too fast for them, readers may be interested in the following short article which I wrote recently for the Echelford ARS Newsletter:

'It is not uncommon to hear people who are starting to use CW on the amateur bands grumble that the other guy sent too fast for them to copy. While I fully sympathise with them, the problem can be of their own making, simply because they do not understand the rules of the game.

Let's start with calling CQ. A simple operation but full of subtleties. If I go on the air calling CQ at 20 wpm it tells everyone:

• I want a contact
• I am G3MCK
• I can handle CW at 20 wpm

• I intend to operate at 20 wpm unless specifically asked to change speed

Reading the list, the first point is obvious and so should be the second, but do those people who send twenty CQs and their callsign once appreciate it?

The third point says 'don't send faster than you can read.' If you call at 20 wpm when you can only read at 12 wpm, you have only yourself to blame when the other guy comes back to you at 20.

The fourth point is not appreciated by many amateurs. In fact, many operators who call CQ at 20 wpm and are replied to at 12 wpm will reduce speed to 12 wpm. This may be helpful to the slower guy but strictly speaking it is not good etiquette. Hence, if you want to be certain that he slows down you must ask him to QRS.

Many beginners compound the problem by sending 'R' when the other guy puts it back to them. This means 'I have copied everything you have sent.' Now you can see why I said some people bring disaster on themselves!

For happy CW, the rules are:

1. Don't send faster than you can read
2. Don't be afraid to use QRS

The other operator will respect you for your honesty.'

Gerald Stancey G3MCK
Staines, Middlesex

Who was Justine Johnson?

I've seen hundreds of bugs in collections, telegraph offices and ham, shacks, but this Vibroplex Lightning Bug Deluxe is the first I have seen with the owner's name engraved on it. Bearing the name Justine Johnson, it was purchased for the bargain price of $25.00 at a rummage sale in Kingman, Arizona. Its estimated date of manufacture was 1935–6, according to the key dating formula developed by John Elwood, WW7P, here in Phoenix (see MM49, p.26).

At one time, the Vibroplex Company offered a name engraving service for a small fee and Justine Johnson may have taken advantage of the offer. But does anyone know Justine Johnson?

Richard L. Thomas, KB7BAD
Phoenix, Arizona, USA

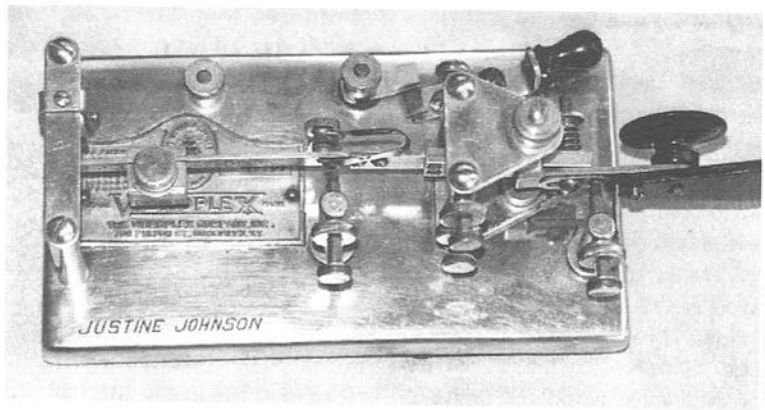


Photo: KB7BAD

Justine Johnson's key

Stapler Key

The stapler key shown on page 25 of MM52 was made by Hugo H. Rousseau & Sons, Co., 210 Post Street, San Francisco, California. It was advertised in *QST* in the 8/68 and 3/69 issues.

The ad states: 'TELEGRAPH KEY STAPLER. Handsome reproduction of antique telegraph key. This Morse code telegraph key cleverly functions as a stapler. Bostitch stapling mechanism. The rheostat is a staple remover. Antique gold finish on black metal with Chinese-red velvet base. 6½ x 3½. Ideal for an original gift for the office or radio shack. Built to last. $10.59 - $.80 postage.'

Lynn A. Burlingame N7CFO
Bellevue, Washington, USA

Oasis and Morse

I received an urgent telephone call from a young lady at the BBC today. 'Hello, this is Tamin and I have been given your name as the UK's expert on Morse – are you familiar with the latest single "Do you know what I mean" from the pop band "Oasis"?'

I said that I was more of a Bill Hayley man myself.

'OK, well the Internet is full of rumours that the introduction music contains a message in Morse code spelling out a web-site address, and we want someone to come and listen to it please, before we play it on this week's "Top of the Pops" for the first time.'

I gave her the telephone number of my resident London 'expert', Morse Examiner Garath Rowlands G4HIP who, coincidentally, works for the BBC.

Tamin telephoned Garath, who unfortunately happened to be on location in Scotland, so he referred her to John Bower, G0WRY, who works in the BBC's Research Department. John played it forwards, backwards, fast and slow, then confirmed that it was purely random dots in tune to the rhythm. There was no secret message. The story was featured on BBC Radio 1, including an interview with John.

I tuned into 'Top of the Pops' myself for the first time in 35 years (a somewhat traumatic experience – whatever happened to Alan Freeman?) and confirmed John's findings.

It would appear that Morse has suddenly become trendy in the pop world, with at least one other performer skilfully using Morse with the background music to spell out a web-site address, where details are provided to win a prize. An announcement on the record sleeve reads 'Can you crack the code?'

Roy Clayton G4SSH
RSGB Chief Morse Examiner
Scarborough, North Yorkshire

Mini-Bug from Canada

I ordered John Merrick's 'Mini-Bug' and key in all brass, as pictured on page 58 of MM50.

Both items are works of art created by a master craftsman, and I am completely satisfied. I took both keys to a recent QCWA meeting where they received outstanding praise.

Phil Kellen K6CJ
Pacific Grove, CA, USA

'Umty Iddy'

I read with great interest the Umty Iddy method of teaching Morse code in

MM52 (p.12). Readers may be interested to know that 'Umty' and 'Iddy' were still in use at the beginning of WWII for teaching Morse Flag.

While 'Dah' and 'Dit' were used for teaching Morse with an oscillator or buzzer, 'Umty' and 'Iddy' were still used for teaching operators to send Morse by flag. The 'sidetone' produced by the flag was similar to that of the sounder of earlier years, hence the switch when using flag.

At that time (1940), Royal Signals Operators (Wireless and Line) had also to qualify in Morse Flag, Lamp and Heliograph.

Stan Read G2ATM
Nottingham

Kind Words About MM

(Our thanks to those readers who sent MM *some very complimentary remarks recently, either with their subscription renewal or in other correspondence. A few are printed below. – Ed.)*

A short note to say how much I enjoy your magazine. Full of interesting information, it is evident that a great deal of skill goes into producing it.

E.L. Marchant
Vicars Cross, Ches.

Of course, with the greatest of pleasure, I renew for 2 years. How could I not?

Tom St. John-Coleman
Braintree, Essex

Very happy to renew my subscription. I wouldn't want to miss any issues. This is the only magazine that I read from cover to cover.

Jim O'Keefe WE6V
San Jose, CA, USA

Very much enjoy *MM*.

Mike Kerr ZL2BCW
Wellington, New Zealand

Reading MM52, which arrived today, it struck me how well the articles are written and, especially, how well the whole magazine is edited. For a (relatively) minority interest, unadvertised, publication the standard is extremely high and I think congratulations are in order.

Robert Dress G4KQM
Mottram in Longdendale, Ches.

The magazine is absolutely terrific, and seems to improve with each issue.

Allan Moore VK1AL
Canberra, ACT, Australia

SHIPBOARD WATCHKEEPING – 2

As I mentioned in MM52, times laid down for a seagoing radio operator's hours of watchkeeping changed in the early 1970s. The new arrangements are shown in the chart opposite.

Instead of the world being divided into six watchkeeping zones, each basically 60° of longitude (four hours) wide, as with the earlier system, it was now divided into 24 zones 15° (one hour) wide, based on the Standard Time Zone System with Zone Z centred on the 0° meridian, Greenwich, England.

According to their hours of service, ships are divided 'radio-wise' into four categories. The First Category (known as H24) keep continuous human watch throughout the 24 hours. The Second Category (H16) keep human watch 16 hours a day, laid down under the new system as 0000–0400, 0800–1200, 1600–1800 and 2000–2200 (all ship's local time), plus another four hours at times 'to be decided by the administration, master or responsible person, to meet the essential communication needs of the ship having regard to propagation conditions and traffic requirements'.

Ships of the Third Category (H8) were to keep watch from 0800–1200 (ship's time), plus two continuous hours between 1800–2200 and a further two hours at a time to be decided as for H16 above.

Ships of the Fourth Category (known as HX) keep no fixed hours of watch, but were encouraged to provide service from 0830 to 0930 hours.

Having forsaken the shipping industry for journalism in 1973, I had no personal experience of these new arrangements, and I wonder how they worked out in practice. Was there still scope for 'awkward' First R/Os to be beastly to their juniors on H16 ships, as happened to me under the earlier watchkeeping hours system, back in 1950?

My seagoing career began as Second R/O on the Elders & Fyffe *Bayano*, a cargo-liner carrying around 200 passengers and vast quantities of bananas. During my first voyage, the First R/O – one of life's true gentlemen – was hospitalised with appendicitis just before we were due to sail from Jamaica, and although only a very green 16½-year-old first-tripper I was entrusted with charge of the radio service for the passage home. I learned a lot in that fortnight!

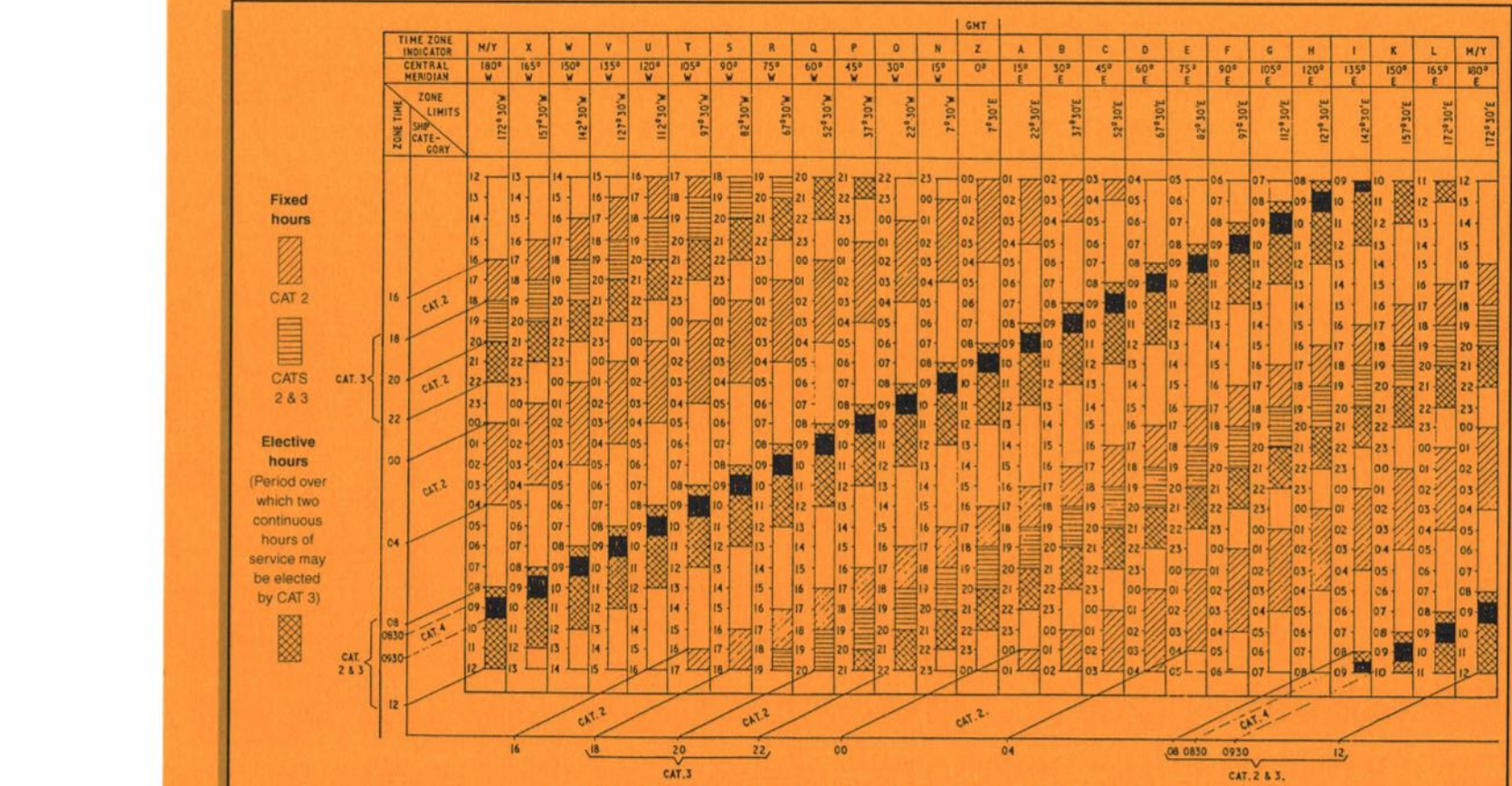
On return to Avonmouth a replacement First R/O was appointed. The new man seemed to be fond of an easy life, and allocated our H16 watchkeeping duties so that he kept the 0800–1400 and 2000–2200 watches, and required that I relieved him for each of the meals that fell during those hours.

The result was that I kept a watch from 0000–0600, relieved the First for breakfast at 0800 and lunch at 1230, and then kept watch from 1600–1800. Naturally, I too needed to eat at some times during the day, so that all-in-all I didn't get a great deal of sleep during that month's voyage across the Atlantic and back.

When I left the ship and went home on leave, I slept solidly for two days, leaving my parents considerably worried for my health, until I finally came to and explained the reasons to them. Less than a week later, I was off to Newcastle-on-Tyne to join the *Rondo*, a collier on the North-East coast run, a very different experience!

(My four months on the Rondo *were described in an article in* Radio Bygones *No. 13. Copies of that issue are still available from the Editorial Offices, price £3.00 to UK addresses, £3.50 elsewhere in Europe and £4.00 to the rest of the world (airmail).)*

G3GSR



New radio watchkeeping hours for the 1970s (see description on page 48)

From Post Office Handbook for Radio Operators, 14th Edition (© Post Office 1975)

The dedication at the foot of this certificate reads:
'This Centenary Event was organised by the Barry Amateur Radio Society to commemorate Marconi's first ever wireless transmission across on May 13th 1897 from Flatholm Island to Lavernock Point, South Wales, giving Flatholm Island the distinction of becoming the worlds first DXpedition and IOTA Island. Marconi added to this achievement on 18th May 1897, when he transmitted from Lavernock Point to Brean Down on the North Somerset coast, thereby spanning two countries, Wales and England, and creating the first ever DX.
On 13th May 1997 and again on 18th May 1997, Marconi's historic radio transmissions were recreated in Morse Code'

Awarded to John Davies G4ETQ