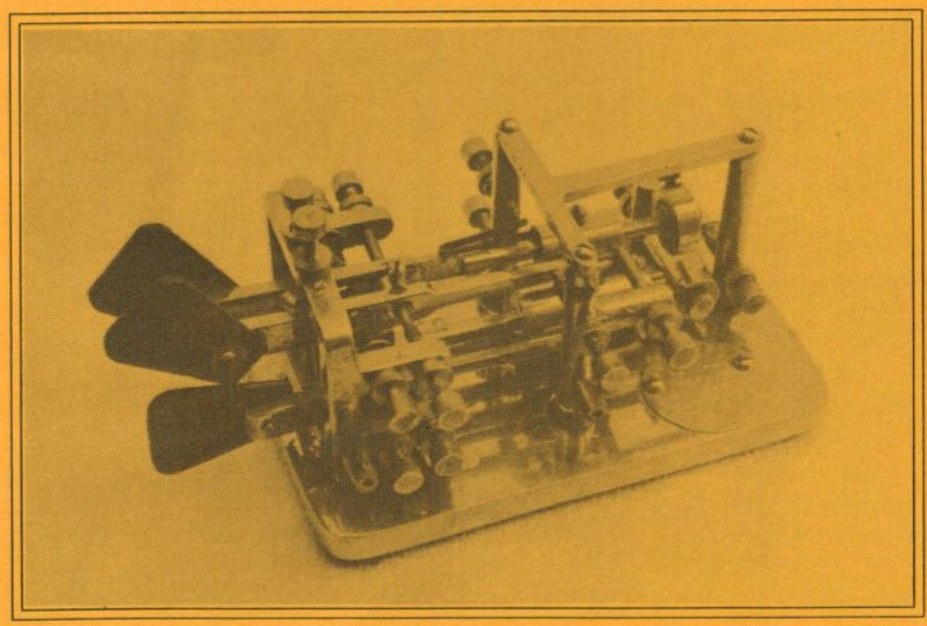
Number 27 – April 1993

Flying the flag for Morse

Morsum Magnificat

The Morse Magazine



The Auto Morse – a double 'bug' key from 1918

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Morsum Magnificat

the Morse Magazine

MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. Now published six times a year in Britain, it aims to provide international coverage of all aspects of Morse telegraphy, past present and future. MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material which would otherwise be lost to posterity, providing an invaluable source of interest, reference and record relating to the traditions and practice of Morse.

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ON OUR FRONT COVER

From the collection of Dennis Goacher G3LLZ, an Auto Morse key, designed by Norman Percy Thomas and patented in Australia on 12.4.1918. A rare example of a fully automatic (both dots and dashes) Morse telegraph key. Two levers actuate vibrating rods or pendulums, with different size weights, to produce the different oscillations required, while the third lever produces a single dash. Construction is of chromium plated steel, with fibre board paddles and rubber feet. The key was made for the professional telegraphist, and is capable of the very best sending when in experienced hands (see also page 19)

Comment

THANK YOU to all who took the trouble to let us have their verdict on the proposed change to bi-monthly publication. We especially appreciate the additional comments which came with several of the replies. Some suggested new features, or a broadening of coverage of particular aspects of Morse. Others just said how much they enjoyed the magazine, and wished 'more power to our elbow'! Tony and I are analysing the views expressed, which will help us to shape the magazine's content in the future. The point drawing the most comments was that we should do more to cater for beginners and 'improvers', both in teaching more about operating on-the-air, and in explaining some of the jargon and abbreviations which old hands take for granted.

The result of the survey is an overwhelming 'vote' in favour of the change – by a majority of almost four to one – so we are going ahead with the change, and you will have to wait only two months for the next *MM* after this one, instead of the usual three months.

Present subscribers will receive the same **number** of issues as they originally paid for. The main effect of the change for them is that they will receive a renewal reminder sooner than they would previously have expected!

The annual schedule of mailing dates for future issues will be around the end of the months of February, April, June, August and October, and those will be the cover-dates. The issue dated December will be mailed as early as possible in the following January, after the seasonal postal rush and holiday period are safely over.

Other changes are the introduction of 2-year subscriptions, offering a worthwhile cost-saving compared with two 1-year subs, and a way of putting off possible future rate increases.

For subscribers in North America, there is now the option of paying in US Dollars by personal check to our subscription agents Wise Owl Worldwide Publications in Torrance, California. See page 10 for full details of rates, etc.

Geoff Arnold

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No-code – A Hidden Agenda?

THE RSGB's INVITATION to all UK amateurs and SWLs, to comment on whether they are for or against the idea of a code-free licence for amateur operation below 30MHz, was widely publicised, both in MM26 (p.6) and elsewhere; and the impression was clearly given by its wording (i.e., 'The HF Committee wishes to consult as widely as possible...') that this was an RSGB initiative to enable the Society to decide on its own attitude to the no-code controversy.

However, *MM* recently had sight of a letter from the Chief Executive of the Radiocommunications Agency, Mr M.J. Michell, addressed to a Member of Parliament in reply to a number of questions about amateur radio raised by a constituent of the MP. Referring to the RSGB's no-code survey, Mr Michell wrote, 'This Agency will consider what action is necessary when we have the results of this exercise.'

MM asked Mr Michell to clarify this comment. Did the RSGB survey represent the efforts of the Society to formulate its policy on the subject before deciding how to proceed (as was widely supposed); or was there already some involvement by the RA which could lead to earlier consideration of the matter at UK Administration level than might otherwise be expected?

In a letter to *MM*, dated 4 March 1992, Mrs Karen Scott of the Radiocommunications Agency, replying on behalf of Mr Michell, wrote:

'CODE-FREE LICENSING

'...In recent years we have received conflicting views on the above from the amateur community. We therefore asked the Radio Society of Great Britain to seek a consensus view from the amateur community through *RadCom (journal of the RSGB. – Ed.)*. At the same time this request was extended to other amateur publications.'

It appears from Mrs Scott's letter that UK amateurs and SWLs were invited to express their views to the RSGB's HF Committee without being told that the request actually originated from the licensing authority; and this is causing concern among those who have become aware of the situation.

It is argued that many more amateurs and SWLs, particularly non-RSGB members and independent clubs and organisations, would have responded to the invitation had they known the background, and that those who did respond may well have argued their case in a different way.

There is also concern that this unexpected evidence of a concealed purpose may cast doubt on the ability of the RSGB to obtain and correctly interpret the views of the amateur community as a whole, and to represent them to the Radiocommunications Agency.

MM has learned that, while many UK radio amateurs and SWLs have expressed

their views, either to the RSGB or to amateur radio magazines, those that would prefer to express them directly to the RA are invited to do so, and should address their letters to **The Radiocommunications Agency, Waterloo Bridge House, Waterloo Road, London SE1 8UA, marking them for the attention of Mrs Karen Scott, Room 712.** All opinions will be taken into account when the subject is discussed later this year.

MM would also welcome readers' views on this matter for possible summary and publication in a future issue.

ARRL Supports Code

THE FOLLOWING RESOLUTION was adopted at the Board Meeting of ARRL, America's national amateur radio society, held at Jacksonville, Florida, on 15–16 January, 1993.

'WHEREAS: Proficiency in Morse code has been an international requirement for many decades, and

'WHEREAS: Morse code is the international language that fosters communications between peoples with differing languages, and

'WHEREAS: Knowledge of the Morse code has, for decades, proven to be of positive value to the Amateur Radio Service worldwide; now therefore, the American Radio Relay League strongly

'REAFFIRMS its continued support for a demonstrated proficiency in the International Morse code as part of the license requirements below 30MHz, and

'DECLARES its desire that demonstrated proficiency in the International Morse code should remain in the ITU rules as a requirement for all ham operation below 30MHz, and hereby

'INSTRUCTS all ARRL representatives to continue to insist before all national and international bodies that there be no modification of the present Morse code proficiency requirement for operation below 30MHz.

(Information from the W5YI Report)

'No' to NZ Code-less Licence

THE EXECUTIVE COUNCIL of New Zealand's national amateur radio society, NZART, passed a resolution last autumn calling for NZART to enter into negotiations with the Ministry of Commerce to try to obtain a code-less General Licence.

NZART's Administrative Liaison Officer wrote to the Ministry, 'It is considered in this day and age there should be alternative ways to qualify for General Grade, and a choice should be offered from a selection of alternative skills, or technical knowledge standards, in place of the present obligatory no-alternative Morse code test.

'It is not suggested that the Morse code requirement be eliminated, but rather that it remain as one of several alternatives from which a candidate for General Grade can make a selection.'

An official of the Ministry replied that he was at '... something of a loss to understand this apparent change in direction by the Council', and that he was unaware of any nation that allows code-free ham radio '... except under the waiver contained in regulation 2735 of the Radio Regulations, Geneva 1990. This waiver, on the Morse code requirement, applies only to the operation of equipment above 30MHz.

'It would seem that the Executive Council is seeking to explore a means of

circumventing the provisions of Regulation 2735. This proposed course of action would not only impact on the treaty implications surrounding the Radio Regulations, but also on reciprocal agreements. These agreements, negotiated by this administration on behalf of amateur operators, are presumably of importance to the NZART and other operators who travel to other countries.

'The "code-less" General qualification which the NZART suggests is a realistic proposal, (but) is outside the scope of current international, and national, regulatory regimes through which suitably qualified amateur operators enjoy access to substantial amounts of a valuable resource.

'The matter of a "non-Morse General" amateur operator's certificate and licence is not one that the Communications Division would consider implementing while the current regulatory and reciprocal regime remains in place. However, a co-ordinated regional approach, such as an initiative from the Region 3 International Amateur Radio Union executive, or better still, from the IARU membership as a whole, to amend the provisions of No. 2735 at an appropriate opportunity, may clear the way for such a goal to be achieved.'

This letter was signed by K.G. McGuire, Manager, International Radio Policy for the New Zealand Ministry of Commerce, Communications.

(W5YI Report, 15 March, 1993)

*(*MM *readers in all countries are asked to inform* MM *of any discussions or developments taking place in their country concerning the possibility of a no-code licence for amateur HF operation. – Ed.)*

More UK Novice Frequencies/Modes

THE RADIOCOMMUNICATIONS AGENCY, Britain's licensing authority, has announced additional frequency allocations and facilities for Novice licensees, effective 1 February 1993.

The previous 3.565–3.585MHz Novice band now begins at 3.560MHz; and 28.100–28.190 now begins at 28.060MHz. Both these changes will enable class A Novices, who have passed the 5 wpm Novice Morse test, to operate on internationally recognised QRP (low power) CW frequencies.

The 50.620–50.760 band is now extended to 50.000–51.000MHz with Morse and telephony added to data as permitted modes; and 51.250–51.750 is extended to 51.000–52.000MHz.

The 433.000–435.00 band now begins at 432.000MHz; and 435.000–440.000MHz is now available for operation with Morse, telephony, data, SSTV and FSTV.

(Radiocommunications Agency Press Release)

Nottingham Morse Seminar

THE NOTTINGHAM Morse Seminar, to be held at the Sherwood Community Centre, Mansfield Road, Nottingham, on Saturday May 15, will include talks and various Morse-related activities; displays of Morse keys and equipment and early radio equipment; a 'bring and show' table; QRP kits by Lake Electronics; a FISTS CW Club table; a selection of keys and keyers for visitors to try; computer CW programs to try; speed testing facilities (at the last seminar the record was 50 wpm for figures and 37 wpm for plain language); and the opportunity to operate

the Nottingham Club call of G6CW on-the-air.

Talks will be given on 'Early Morse' (by Tony Smith G4FAI, Consultant Editor of *Morsum Magnificat*), 'Early Morse training aids and records' (by Norman Field G4LQF), 'The New Test', 'The Choice and Use of Keys', plus others awaiting confirmation at the time of writing.

The Seminar opens at 11 am. Admission will cost £1.00, with all proceeds going to the Radio Amateur Invalid and Blind Club. A pre-arranged mini-bus will run from Nottingham Midland Station to the venue at 11 am and 12 noon, returning at 4 pm and 5 pm. Light refreshments will be available, and there will be a talk-in station on S22.

For further details, including route information from Junction 26 of the M1 motorway, or mini-bus pick-up arrangements, please contact the organiser, Ron Wilson G4NZU, 9 Greythorn Drive, West Bridgford, Nottingham NG2 7GG. Tel (0602) 231900.

The previous Seminar arranged by Ron was extremely well received by all participants, and the 1993 event promises to be an equally enjoyable and interesting day for all those interested in Morse, from absolute beginners to experienced veterans.

World QRP Day

JUNE 17 IS DESIGNATED annually by the International Amateur Radio Union as World QRP Day. This is not a contest. The idea is simply to try working with low power.

Many QRP stations will be heard using typical power levels from 5 watts output down to milliwatts. High power stations are asked to avoid interference to these QRP stations – or better still, to reduce power themselves and join in the fun!

Monthly QRPp Activity Day

TO MOTIVATE AN INTEREST in very low power transmitting and home construction of QRPp equipment, the OK QRP Club invites all licensed amateurs to take part in a QRPp contest on the third Friday of every month from 2200 to 2400 hours UTC, on suggested frequencies of 3.550–3.565MHz and 3.575MHz, the latter being a commonly used crystal-controlled frequency in Czechoslovakia. Transmitters used must be constructed for low-power operation. High-power rigs using reduced power do not qualify.

Mode: CW. Power output: maximum 1 watt.

Call: CQ TEST QRPP.

Exchanges: RST + QSO number/output power in milliwatts, e.g., 579 001/500.

Scoring: full 2-way QRPp QSO = 1 point.

Multiplier: every prefix (as WPX rules) including your own = 1x.

Total score: total points x total multipliers. Stations may be worked only once during the two-hour period.

Logs: Detailed logs are not required. Send a simple report containing name of contest, date, callsign, name and address of operator, total points, total multipliers, and total score claimed.

Include also, details of PA output or input; PA active element (transistor or valve/tube); brief details of rig used (TX/RX/transceiver/antenna, etc.); and a signed declaration 'I declare that I fulfilled all the rules of the QRPp Activity Day in the true Ham spirit.'

Entries: Send within ten days of the contest (verified by postal date stamp) to the contest manager – OK2PJD, Jiri Dostalik, Komenskeho 518, 793 05 Moravsky Beroun, Czechoslovakia, from whom full rules and further information on power requirements, etc., are available (send 2 x IRCs).

Winners each month will receive a colour-postcard indicating results. A prize will be awarded to the overall winner over the year. The OK QRP Club hopes that this competition will soon spread across Europe and will bring to its participants great enjoyment and pleasure from the results they achieve, attracting many new enthusiasts to QRPp operating in the process.

(Information via EUCW Newsletter)

Key Meeting

AS THERE WAS no formal Key & Telegraph Workshop planned at the Antique Wireless Association's four-day Conference in Rochester, NY, last September, a group of enthusiasts organised a 'Key & Telegraph Special Interest Group' fringe meeting.

Roger Reinke, whose detailed listing of American Telegraph Instrument Makers 1837–1900 appeared in MM23–25, gave an illustrated talk on a special design of camelback key that has intrigued him for many years. Bill Holly, author of *The Vibroplex Co., Inc., 1890-1990*, gave an excellent discourse on Bunnell keys, showing the many types produced over the years by that company. Tom French, author of a number of books on key and telegraph, including the *Mac-Key Blue Book* (available from MM Bookshelf), discussed McElroy keys; and respected Canadian collector Murray Willer, who has been of great assistance to *MM* on occasions, with authoritative assistance on various aspects of key collecting, talked about European keys.

Attendance at the meeting was restricted and there was a good deal of discussion between speakers and audience. Tom French played a recording of a speech made by Ted McElroy when the US Navy presented the McElroy company with a special award for excellence in manufacturing during WWII, and illustrated the recording with several slides of McElroy actually making the speech. It was a memorable meeting.

(Our thanks to Murray Willer, Toronto, Canada, for the above information. The description of Murray was written by MM, *not by him! – Ed.)*

Amateur System to Test Commercial Ops

THE FEDERAL COMMUNICATIONS COMMISSION is to introduce a new testing system for commercial radio operator examinations based on the VEC (volunteer-examiner co-ordinator) amateur radio testing system which has operated successfully for the last eight years.

The new system will be directed by private groups known as Commercial Operator Licensing Examination Managers (COLEM) which will be the commercial counterpart of an Amateur VEC.

The Elements required for different classes of licence are:

Telegraphy Element 1: 16 code groups per minute (random groups of letters, numerals, punctuation and prosigns). Amateur Extra Class licensees receive credit for this exam without testing.

Telegraphy Element 2: 20 words per minute text. Amateur Extra Class licensees also receive credit for this examination without testing.

Telegraphy Element 3: 20 code groups per minute.

Telegraphy Element 4: 25 words per minute text.

The requirements for a First Class Radiotelegraph Operator's Certificate, apart from various Written Elements, include Telegraphy Elements 3 and 4; Second Class requires Telegraphy Elements 1 and 2; and Third Class also requires Telegraphy Elements 1 and 2. Other licenses, such as the General Radiotelephone Operator License and the GMDSS Radio Operator's License, do not have telegraphy requirements.

Candidates for the Telegraphy Elements must copy a telegraphy test message by ear for a period of one minute but, as in the amateur service, the sending examination need not be administered. Examinees must know all letters of the alphabet, numerals 0–9, period, comma, question mark, slant mark, and prosigns $\overline{AR}$, $\overline{BT}$ and $\overline{SK}$.

All telegraphy examinations must contain each character at least once. Five letters are counted as a word, and each numeral, punctuation mark or prosign counts as two letters of the alphabet.

(W5YI Report)

Spot the Killer!

AN LWT TV PROGRAMME *The Mystery of Morse*, on 17 January 1993, looked behind the scenes on the set of the last-ever *Inspector Morse* mystery produced for Britain's Independent Television network.

In the programme, Barrington Pheloung, composer of the theme music used in this popular series, explained and demonstrated how he used Morse code spelling out the name MORSE to create the theme.

He said that he sometimes included the name of the killer, or a cryptic version of it, in Morse, in the music for a particular episode. Sometimes he used the name of someone who wasn't the killer, 'because', he said, 'I'm a ratbag!'.

The last episode of *Inspector Morse*, 'Twilight of the Gods', was screened on 20 January 1993, but already some previous episodes have been re-run in the UK. No doubt the series will also be screened or re-run in other countries, so *MM* readers will continue to have the opportunity to try to identify the villains in each episode from the information encoded in the music!

Silent Key

JOHN I. BROWN G3EUR, who died on 11 January 1993, was perhaps best known as the designer of the series of SOE W/T sets, including the Type A MkII and MkIII, and Type B MkII which were used by the SOE, 1942–45, in various forms including the famous clandestine 'suitcase' sets.

In recent years he worked hard to establish the Duxford Radio Society, at the Imperial War Museum's Duxford airfield, which now has an established operational radio station using both historic and modern equipment, plus an exhibition area and restoration section planned and well under way.

John wanted to generate an interest in the history of radio in the fields of

military, para-military and clandestine operations, and to facilitate the proper exhibition of radio equipment at Duxford. He wanted these activities to be a tribute to the wireless operators of the past who lost their lives in Service; but they will undoubtedly also be a memorial to him.

John was a good friend of *MM*, contributing articles, advice and suggestions from the beginning of our English language edition. A man of many interests and activities, he will be sadly missed.

New Key – No Contacts!

A NEW PRODUCT from Cal-Av Labs, Inc., is the 'Spirit' Morse key which, according to the makers, features:

- A new technology, eliminating contacts and all other moving parts
- Solid-state force sensors operating when a given, preset, force is exceeded, as in mechanical keys'.
- Independent left and right adjustments to accommodate operators with the lightest touch as well as 'heavy hitters'.

Machined in solid brass, this limited-production key weighs five pounds and is claimed not to budge on a clean smooth surface. Finish is polished brass, with chrome or gold plating optional. Cables for various pieces of equipment can be exchanged by merely plugging them in.

Each key is individually serialised, and engraving of name and/or callsign is available. One version of the key incorporates an infra-red link that eliminates the cable. This link supports simultaneous transmission of dot and dash keying for iambic operation, and a receiver, a few feet away, connects to the station's electronic keyer.

The price, in polished brass, with one cable is US$380.00. For further information, contact: Cal-Av Labs Inc., 515-B Westchester Drive, Campbell, CA 95008, USA.

Test Exemptions Questioned

THE FCC, America's licensing authority, is writing to the doctors of certain 'severely handicapped' amateurs who apply for 13 and 20 wpm telegraphy exemptions.

The telegraphy credit is disallowed if the doctor cannot substantiate that the disability prevents the applicant from passing the code test.

(W5YI Report)

Straight Key Evening

THE 12TH ANNUAL SKE organised by the Edgware & District Radio Society will be held on Friday, 21 May 1993. Time – from around 1900hrs BST 'for as long as you like'. Band – 3.5MHz, particularly around 3.550MHz. Call – CQ SKE. Special Event Club Station GB2SKE will be operational in the evening on 3.5MHz and in the afternoon on 7MHz, making it a straight key afternoon also.

The E&DRS normal Club Station, GX3ASR/P, will also be on the air during the evening and, to encourage Novice participation, one of the two club stations will operate above 3.560MHz.

SKE is not a contest. Its purpose is to encourage everyone to plug in their straight

keys and indulge in some relaxed and friendly operating. This invitation extends to operators of all abilities, 'from the newest and most hesitant of new licensees to the high-speed experts who may care to return to their roots and show they can still handle a straight key with the rest'.

Further information may be obtained from the SKE organiser, John Bluff G3SJE, 52 Winchester Road, Kenton, Harrow, Middx HA3 9PE, who will welcome reports and comments after the event.

(Information from John Bluff G3SJE)

GAM1 on CW

AT THE TIME OF WRITING (late March) the RSGB's proposed propagation information broadcast service, GAM1, is awaiting international acceptance of the proposed operating frequency of 3.821MHz.

The transmissions will include propagation data from Meudon, France, i.e., sunspot number, solar flux and AP index, plus information on other events such as solar flares, etc. A contact has been established with USAF/NOAA so Boulder's previous day's data will also be transmitted.

Transmissions will be in CW at 12 wpm, one in the morning and three in the evening. Times of transmissions and specimens of the message format will be published in *MM* when this information becomes available.

(Information from G. Williams G4FKH, GAM1 Project Manager)

Clayesmore Morse Festival

ALTHOUGH THE NUMBERS attending this first staging of a Morse Festival at Iwerne Minster in deepest Dorset were disappointing, the consensus among those who did come was that it was a thoroughly enjoyable weekend, with plenty of opportunities to chat with fellow enthusiasts.

Visiting traders Dewsbury Electronics and R.A. Kent (Engineers) gave most interesting talks on the origins and development of their companies, and on their various products for the Morse operator. The relaxed atmosphere of the festival provided an ideal occasion for visitors to try out the various keys and keyers on display, and to chat to their designers away from the more usual frenzied crush of amateur radio rallies. Subjects of other talks included Morse learning methods, the 'No-Code Licence' proposal *(see elsewhere in this issue)*, and *MM* and *Radio Bygones* magazines.

A visit to the Royal Signals Museum at nearby Blandford was organised for the Saturday evening. In addition to the usual vast range of exhibits dealing with visual, line and wireless communications used by the army since the days of the Crimean War, the Curator had laid out a special display of Morse keys for the occasion.

On the Sunday morning, attendance suffered from the combined effects of the loss of an hour's sleep due to the clocks being changed and the competition provided by a popular annual radio 'junk' sale in nearby Bournemouth. Because of the illness of two of the intended presenters, some rearrangement of the festival programme was necessary, and your Editor was persuaded to deliver an impromptu talk about his experiences as a seagoing radio officer in the 1950s.

Despite this, Festival organiser Rob Mannion G3XFD reports having received

many appreciative calls and letters from those attending. He hopes to stage the event again at Clayesmore School in 1994, incorporating lessons learned from this year and also several suggestions from visitors.

New 3-in-1 Miniature Key

SOMETHING A LITTLE DIFFERENT from the usual design of Morse key, this new product from G4ZPY Paddle Keys International *(see their advertisement opposite for a photograph)* is the result of hundreds of requests from enthusiastic users of QRP and Morse on the move, whether mobile or back-packing.

It is light, robust, and extremely efficient, weighing in at just 150 grams (a little over 5oz), yet still maintaining the usual G4ZPY quality standards. The problems traditionally associated with light-weight keys have been overcome by fitting a rubber magnet under the base to secure it to any steel-cased QRP transceivers, or to a small steel plate fixed to any surface in a vehicle.

The manufacturers plead, for safety reasons, that the key is not used whilst driving a motor vehicle.

The key can also be fixed to the G4ZPY miniature Iambic Electronic Keyer or, if preferred, can be strapped to the knee by means of the length of black tape and Velcro supplied. It is the ideal weight and size to carry in a suitcase, back-pack or pocket.

The 3-in-1 Miniature Key is finished in very highly-polished brass, with tiny oval black paddles, shaped to provide a pleasant feel. On request, the purchaser's callsign can be engraved on the top of the back plate, at no extra charge.

The introductory offer price is £65 plus post and packing – add £2 for UK orders, £3 for Europe, £4.50 for the USA and £6 for Japan. Insurance cover for despatch to most countries is available for an additional charge of £2. All payments must be in Pounds Sterling, or by Visacard, Mastercard or Eurocard.

A brochure describing the current product range is available from G4ZPY Paddle Keys International, 41 Mill Dam Lane, Burscough, Ormskirk L40 7TG, England. Send an s.a.s.e. (UK) or 2 IRCs or US$2 (overseas). Orders and enquiries also welcome by 'phone on 0704 894299 (overseas +44 704 894299) between 0800 and 2300GMT, 7 days a week.

The Golden Section Key

by Dr Jim Lycett PhD G0MSZ

SINCE THE BEGINNING of time, man has attempted to create things of beauty, things pleasing to the eye. History reveals a wealth of man's ingenuity and striving in the pursuit of excellence, such as magnificent buildings, art forms and engineering artefacts.

What better model do we have to imitate than that of the human body? When we view the body with the eye of an artist, certain rules appear to govern the proportions of the skeleton. The rule of construction is generally referred to as the 'Golden Mean', 'Golden Section' or 'Golden Number'. It may be described as follows; the proportion is a division of a given distance such that the smaller section is in the same ratio to the larger as the larger section is to the whole, i.e.,

$$m:M = M:(M + m)$$

where m is the smaller section, M the larger, and $(M + m)$ the given distance. For all practical purposes this yields a figure of 0.618 and serves as a multiplier for the distance to be divided.

Design Philosophy

When this criterion is applied to the design of a Morse key it is first necessary to select the desired length of arm, for convenience say 150mm (that is, from knob centre to back contact). Using the Golden number, the first division yields a distance of 92.7mm (93mm), the second 57.29mm (57mm). the third 35.4mm (35mm), the fourth 21.87mm (22mm), the fifth 13.52mm (14mm), the sixth 8.36mm (8mm) and so on.

If a conventional key arrangement is considered, the first division is used to determine the position of the pivot point (using the front of the key as a datum), the second to position the front contact, and the third to position the spring (see **Fig. 1**). It is not necessary to be constrained by a conventional arrangement, the same principal works for calliper contact keys, described later.

The remaining divisions may be used to determine pivot block size, arm cross-section, locknut proportions, etc. As long as the ratios of dimensions follow the Golden Mean the key, irrespective of size, will always 'look right'. For example, when considering the size of the base, the arm length effectively determines the minimum length of the base; and the base length is obtained by 'scaling-up' the dimension of the arm by the Golden Mean, i.e., 150/0.618 = 243mm (242.72).

However, when the width of the base is calculated in this manner the result is a little too square for practical purposes. This is overcome by applying the Golden Mean a second time and the result is pleasing without compromising the rules of the Golden Mean. A suitable base size for a

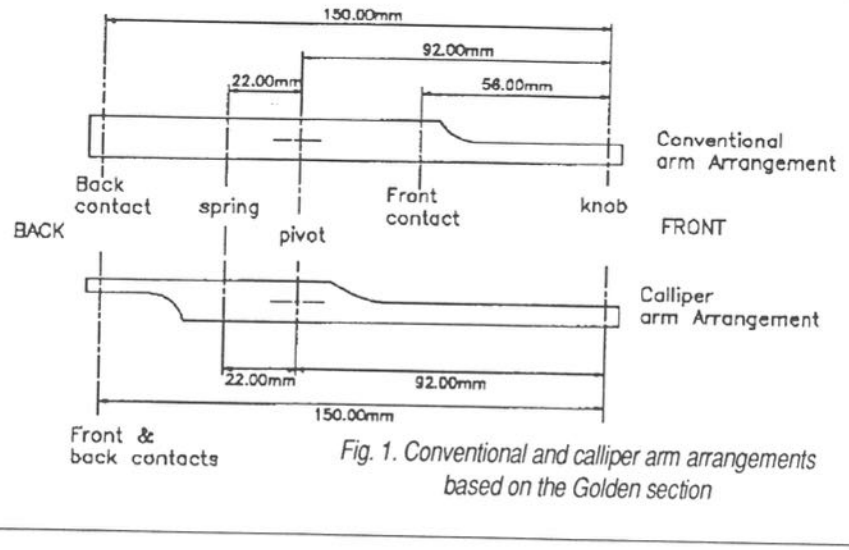


Fig. 1. Conventional and calliper arm arrangements based on the Golden section

150mm arm length is 243mm (242.72) x 93mm (92.7).

Performance Index

In a recent dynamic analysis, the author, using digital simulation techniques, mathematically modelled several popular Morse keys by considering them as 'lightly damped second-order' systems, with the contacts represented as very strong springs.

It was found that the ratio of knob-pivot distance (L) and front contact-pivot distance (F) partly determined the 'feel' of a key and its ability to key well. This ratio, (L:F) may be thought of as a performance index. Values in the range 1.5 to 2.8 provide acceptable keying over a wide range of speeds, whilst values approaching unity or less make fast keying difficult. Similarly, a ratio greater than 4.0 suggests the existence of an upper limit – sometimes described as the 'nut-cracker' effect.

The Golden Section key has a value of L:F 2.62 for a conventional arrangement, and 1.62 for a calliper arrangement. Thus it can be seen that keys designed on 'artistic' lines fall within the dynamic criteria and confirm the old saying 'if it looks right, it is right.'

Keys Modelled

The keys mathematically modelled, with their L:F ratios shown in ascending order, were as follows:

Conventional arrangement Service keys

AP 7681, 1.00; PO 1056a, 2.08; RAF Type 'D', 2.21; WT 8AMP No2/II, 2.23; J38, 2.34; WT 8AMP No2, 2.64.

Amateur radio keys

G4ZPY, 1.88; Radio Shack, 2.24; Kent, 2.45; Fibonaci, 2.50; Nye Viking, 2.55; Golden Section, 2.62; HK 702, 2.69.

Calliper keys

Naval 8558, 1.54; Golden Section, 1.62.

Cantilever key

Walters. 2.25.

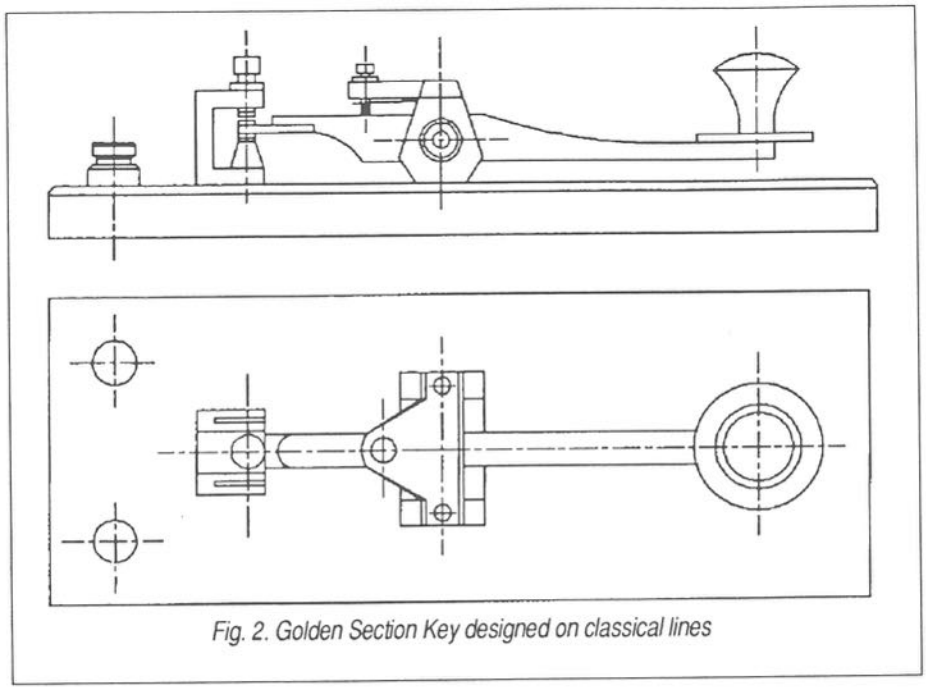


Fig. 2. Golden Section Key designed on classical lines

Practical Aspects

Having established a basic philosophy of design, attention is turned to the practical aspects of realising the theory. Over the past few years I have built many keys of all shapes and sizes using a large variety of materials. Not all have worked well and not all have looked good.

My basic design remit now was to build a key which fell in line with the artistic perspective, looked good, was silent in operation, exhibited a balanced feel and worked well.

Taking what I considered to be the best operating characteristics of some classic keys, I devised a specification. This included ball race bearings, soft contacts, long arm, heavy base, spring and gap adjustment by Allen (socket) key from static surfaces, metal parts plated to stop tarnishing and smell, and terminal binding post connections.

The major factor to influence the appearance of the key was the introduction of the contact calliper and the spring adjustment bridge, giving static surfaces from which adjustments may be made.

My final design offers a key based on the Golden Mean and one that is a summation of the best operational attributes I have found. It not only looks good but keys with a quiet gentle ease over a wide range of speeds, being almost silent in operation. **Fig. 2** gives the layout and typical details of manufacture to enable a similar key to be constructed by others.

Materials

Brass was selected for most of the metal parts, including arm, trunnion, adjusters

and terminals; phosphor bronze for the contact extension; silver for the contacts; and polished black granite for the base.

All brass/bronze parts, screws, nuts and washers were heavy chrome plated and polished to mirror finish.

Construction

Simple hand tools (hacksaw and file) were used to fashion the arm, trunnion, and contact calliper from brass bar stock. Holes for the precision ball race bearings were bored and reamed to obtain a push fit. The ball races were eventually cemented in place using Loctite Super Glue or equivalent.

Socket head screws 2BA x 1" were used to fix the brass trunnion and contact assembly to the granite base, and 4BA and 6BA socket head screws were used for other fixings. 2BA brass binding posts, obtainable at most radio rallies, or from scrap electrical equipment from the fifties/sixties, make excellent terminals if a lathe is not obtainable.

The silent operation of the key is due to the slight flexing of the contact strip. To give a balanced click, identical contacts were used for the top (front) and the bottom ((back). As the bottom contact is redundant electrically it may be replaced by a nylon or plastic post.

Base

Black granite was chosen for the base to set off the polished chrome top parts. This material, however, is difficult to work and requires extra care and firm clamping. I used a vertical milling machine fitted with a sharp masonry-drill and plenty of water for precision drilling.

An electric hand-drill with hammer action may be used to drill the holes but the drill tends to wander. If a hand-drill has to be used, drill the holes a little larger than required, fill the holes with epoxy resin, and finally drill the epoxy to the centres required.

A more modest material such as marble may be used. It is easier to work and, although not as robust as granite, is equally pleasing to the eye. Readily obtainable from monumental sculptors, it may be worked with good quality metal-work tools. Wood is definitely a compromise, and although easy to work and polish up, it leaves the feeling that something is missing.

Attention to Detail

One final word, pay attention to detail, particularly in the final stages. Once the cutting and drilling is completed, assemble the key and put it through rigorous testing. Only when satisfied, totally strip it down and send it to the platers. You will be amazed at how good it feels to get to this point and find that your work of art out-performs your wildest expectations.

Costs

Typical breakdown of costs, including VAT, at time of writing (October 1991): Brassware, barstock, £7; Screws/hardware, £4; Bearings, £4; Base, £10; Plating, £30; Miscellaneous items, knob/finger-plate, Super Glue, £5.

Suppliers

Brass, bearings, contacts, socket screws: Whistons of Stockport, for many years a marvellous source of small quantities of engineering and mechanical bits and pieces, are unfortunately no longer in

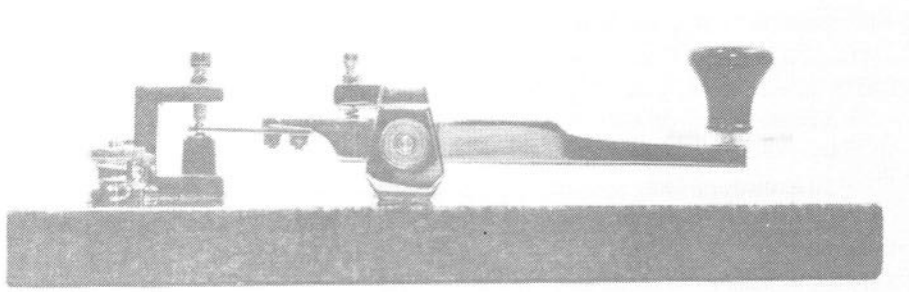


Fig. 3. Golden Section Key made by Jim Lycett
Photo: Jim Lycett

business. If you do not already know of a local source, a search through the 'Yellow Pages' for your area, under the headings 'Fixings & Fastenings', 'Bolt & Nut Stockists', 'Bearing Stockists', 'Brass & Copper Stockists' and 'Non-ferrous Metals' may be rewarding.

Chrome plating: Cleveland Chroming Company, Harwood Court, Riverside Industrial Estate, Middlesbrough, Cleveland.

Granite, cut to size and edge polished. Decorcast, 109 Marton Road, Middlesbrough, Cleveland. *MM*

DRAWINGS AVAILABLE

By courtesy of the author, photocopies of engineering drawings 001, 002, 003, and a full parts list, are available at nominal cost for readers wishing to make their own Golden Section key.

To obtain these, send £1.25 (to include p+p and VAT where appropriate) to G.C. Arnold Partners, 9 Wetherby Close, Broadstone, Dorset, BH18 8JB.

RESULTS

Competition – Christmas 1992

ONE OF THE ENTRANTS summed it up very well in his comment: 'Not as easy an exercise as one might think!'. We were disappointed at how few entries we received, just eight from a readership of around six hundred, and of those only six were valid under the rules of the competition.

Although we thought we'd made it reasonably clear in the original announcement, not everyone seemed to understand what we meant by a 'Morse palindrome', as distinct from an ordinary palindrome.

In an ordinary palindrome, where it is the pattern of letters which must be symmetrical, the chosen word or phrase must have either an odd number of letters *or* an even number of letters with the middle pair being the same. In a Morse palindrome, where it is the pattern of dots and dashes which must symmetrical, the requirements are very different.

If there is an odd number of letters, the middle one must itself be a Morse palindrome, the only valid letters therefore being E, H, I, K, M, O, P, R, S, T and X. If there is an even number of letters, there are two possible arrangements.

In the first option, where the middle pair of letters are the same, those letters must themselves be Morse palindromes, as in the above list. You could certainly have EE, MM, OO, PP, RR, SS or TT. The others would present more difficulties, in the English language anyway!

Alternatively, the middle pair of letters must be Morse opposites, the possible combinations being A and N, B and V, D and U, F and L, G and W, or Q and Y, or vice versa.

But enough of the inquest! What was the winning entry, and who won?

Five out of the six valid entries used the same word: 'FOOTSTOOL' (defined in my dictionary as 'a stool for placing one's feet on when sitting'), which contains 25 Morse symbols. The five were submitted by: P. Cara of Belgium, Jim Carter G0LHZ, Richard Hall G0OGN, R.S. Harvey G4PKY, and A. Williams of the Isle of Wight.

The only other valid entry, submitted by Gaspard Lizee VE2ZK, was 'FERREL' (a Scottish spelling of 'ferrule'), lost out due to being only 18 symbols long.

As there was a tie, the editorial hat was pressed into service. The winner is Jim Carter G0LHZ of Reading, who receives a one-year extension to his present subscription. Congratulations to him, and also to his nominee for a year's free introductory sub to *MM*, Nick Challacombe G0LGG, also of Reading.

We shall be writing to the nominees put forward by the other competition entrants, offering them a special first year's subscription to *MM* – eight issues for the price of six!

Thank you to everyone who entered the competition, and to Bill Guest G4IYB who thought up the idea in the first place!

Telegraphy Highlights in Adelaide Museum

by Richard L. Thomas KB7BAD

AS A YANK ON HOLIDAY Down Under, and as a railroad telegrapher first and an amateur radio operator second, I was anxious to visit museums that recognised the importance of landline telegraphy in communications history. In Auckland, New Zealand, my appetite was whetted, but not satisfied, at the Museum of Transportation and Technology. Minimal Morse there. In Sydney, Australia, the marvellous Power-House Museum bombed out completely. Not a key or sounder in the place.

But after a wonderfully relaxing and yet exhilarating 30-hour train ride to Adelaide, I struck gold! The first sight that greets a visitor to the Communications Museum is the telegraph display, and it's a 'must see' for any landline telegraphist or radio operator lucky enough to visit this capital city of South Australia. It is easy to find, just two doors from the main post office in downtown Adelaide, at 131 King William Street, and admission is free.

Hands-on

What's even better, it's a 'hands-on' museum, and kids and oldsters alike are invited to try their fist with a straight key and sounder just inside the door. Another nifty feature is a replica of an old-time Aussie telegraph station with a life-size figure seated at the desk. When a visitor presses a button, the sounder spews out dots and dashes while the message is simultaneously printed out on a TV monitor.

The telegraph displays are in the Sir Charles Todd Room and are fitting tributes to the man who came from England to set up the telegraph system in South Australia in 1855, and served first as Telegraph Superintendent and then as Postmaster-General for the next 50 years. In Australia, the Morse lines, and later the telephone and wireless systems, were government owned, under the jurisdiction of the Postmasters-General of the various colonies until the appointment of a Federal PMG in 1901.

Much of the equipment displayed is from the Great Overland Telegraph Line which stretched from Port Augusta, on Australia's south coast, to Darwin on the north coast. Construction took from June 1870 until August 1872, and the line tied into an undersea cable to give direct communication with Europe.

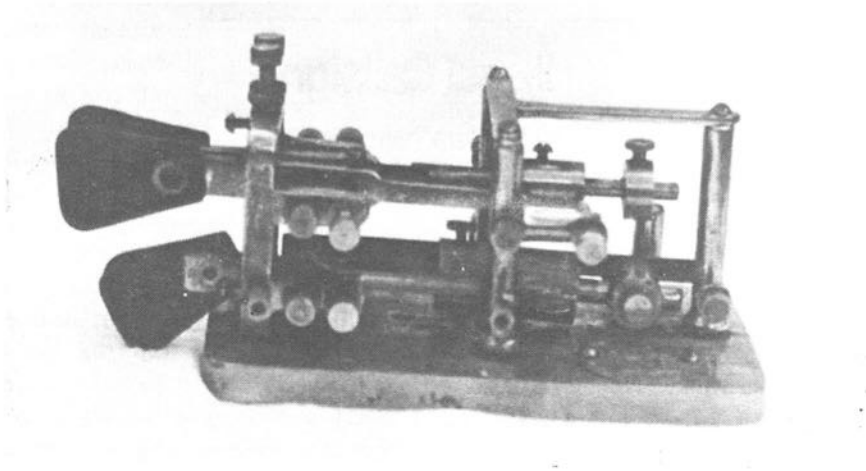
Impressive Collection of Bugs

Museum attendant John Beare recalled working as a telegraph messenger as a boy, and commented that the chief telegrapher 'was a mean bastard. When we weren't delivering messages he made us practice the code whether we wanted to be telegraphists or not.'

not allowing myself enough time. The museum, appropriately, is housed in the building that was once the main telegraph office in Adelaide.

Last Morse Message

Perhaps the Aussies have a more developed sense of history, or at least



The Auto Morse, with automatic dashes as well as dots, used by Adelaide operators on long distance circuits, including the overland line to Darwin. This key was described by John Houlder in MM11 as 'the Rolls Royce of all jiggers.'

Photo: John Houlder

The museum has an extensive wireless and broadcast radio display on the second floor and telephone displays on the third floor. There is an impressive collection of bugs of both Australian and American manufacture. I saw my first Vibroplex with a blue base there, and I drooled over an 'Auto Morse' key invented by K.P. Thomas and once manufactured in Adelaide. *(See 'Australian Jiggers', MM11, p.21. – Ed.)*

The museum is open from 10.30 a.m. to 3.30 p.m., and my mistake was in

more sentimentality, than we Yanks because a museum display points out that the last Morse telegraph message in South Australia was sent in 1962 from Kalangodoo to Adelaide. I suspect that in the 50 United States there are scant records of the last telegraph message sent in Morse code.

How many readers of *Morsum Magnificat* know when the last Morse message was tapped out in their home state, province, or country?

MM

Illegal Callsign

by Nils Schiffhauer DK8OK

SHORT-WAVE LISTENERS around the world have been puzzled by the German numbers stations, even after the unification of Germany. It was widely thought that these broadcasts of coded number groups originated from the other side of the Iron Curtain – but not all did.

Some were broadcast by BND, West Germany's CIA, to agents in the east, with the five-number groups decoding into further numbers. Examples are '794' meaning 'meeting as planned'; '073', 'place of work'; '956', 'West Germany', and so on.

These transmissions could be received by an ordinary radio with a few short-wave bands, and in the seventies, Grundig's 'Ocean Boy' was widely used for this purpose.

You might have wagered that after re-unification at least the German number stations would have left the air. But it's business as usual and you can still listen to them on many frequencies as if nothing has happened on the political scene!

Spy Network

In the now re-united Germany, most technical matters for BND are dealt with by 'Bundesstelle für Fernmeldestatistik – BFST'. Translated as Federal Service for Telecommunications Statistics, this is the telecommunications backbone of the German spy network – and more.

Branches of the BFST are all over the country. I found one near Husum in Schleswig-Holstein. I actually found two receiving and transmitting sites, one of which was on a path without any street sign although on detailed maps this site is named 'Krumweg'.

I tried looking them up in the local telephone directory, without success. Walter Genz, press officer of the responsible Post Office Divisional Administration, told me, 'According to our law of telecommunications, this is a military facility.'

I contacted Bundeswehr, the German Army, for more information and they said it was a civil facility. However, BFST staff member Klaber wrote me that they are also doing some work for the Army 'and others'. These 'others' are Germany's Counter-Intelligence Service, working mostly outside Germany; the Interior Secret Service; and the Secret Service of the German Army.

CW Transmissions

As many SWLs know, the numbers broadcasts are by voice so what has all this to do with Morse? Well, I verified CW numbers signals on 9.161MHz from the BFST Krumweg station only ten metres away from the antenna, after the signal over-modulated my car radio! The callsign was EC3Y.

As an SWL I often send reports to get a QSL card so I wrote what may be the very first reception report to a German

numbers station – and to the right address, being 100 per cent sure about the origin of the transmission!

The answer was short but polite. 'On principle' we do not verify reception reports, 'Yours sincerely'.

Since I'm not 'building castles in Spain', this answer was actually more than I expected. But speaking of Spain, isn't EC3Y a Spanish rather than a German callsign?

Callsign Changed

After looking it up in the 'international treaties', it turned out that EC3Y was a call for a novice ham licence in Madrid. That left me puzzled. It seemed a clear case of illegal use of a foreign callsign – by a government authority supposedly responsible for the enforcement of international treaties!

At that time, the Deutsche Bundespost was actively controlling the (then) illegal use of scanners *(Legalised mid-1992 – Ed.)*, so I asked them to also look into the violation of international laws under their own roof. Within a week I received a phone call from the PTT. This revealed that BFST used the callsign EC3Y for transmissions towards Spain but would change the call to a legal one that very day.

Immediately after hanging up, I switched on my Yaesu FT-1000 to verify the position, and they really had changed the call! Since 20 January 1992, therefore, they no longer use EC3Y for their transmissions on 9.161MHz. The new call is DEA47 which complies with the international regulations.

Again I sent a reception report, and again they wrote that they do not verify such reports 'on principle'. But their change of callsign was one of my best ever QSLs – even though it was only 'on-the-air'!

(Condensed and adapted for MM *from an article in* Monitoring Times, *September 1992, by kind permission of the author. Nils Schiffhauer is editor of* Amateurfunk Jahrbuch 1993, *published by Siebel Verlag, Auf dem Steinbuchel 6, D-5309 Meckenheim, Germany, price DM 24,80.)*

MM *footnote:* *As of February 1992, there is no sign of DEA47 on 9.161MHz. Nils comments, 'Maybe they closed down. Maybe they switched to another (winter?) frequency.'*

If any of our SWL readers do hear DEA47 CW numbers transmissions on this frequency, or on any other frequency, please let MM *know.*

Wireless During a Flight

From
Notes for the Preliminary Training of Officers of the RFC as Pilots, *1916*

THE AERIAL WIRE is generally about 150 to 250 feet in length, so you should never attempt to let it down until you are well above that height, also making allowances for trees, buildings and other objects.

When up a sufficient height, say 500 or 600 feet, let down the aerial. Do not allow it to run out too fast, this is the most frequent cause of the wire breaking in the air or of tangling. If the wire becomes entangled it will cause difficulties and accidents when landing, as it will be impossible to wind it in completely, and the hanging wire becomes a source of danger. It may become entangled in trees and so might bring down the plane. In such a case it would be advisable to cut away the aerial.

The best method of letting out the aerial is to slowly release the tension on the brake and let the aerial run out smoothly and gradually, at the same time steadying the drum with the other hand. Let out the whole of the aerial, the rope and the shock absorber. If the set has been properly adjusted and put in order, no further adjustments need be made, depress your key and see if the ammeter is fairly high.

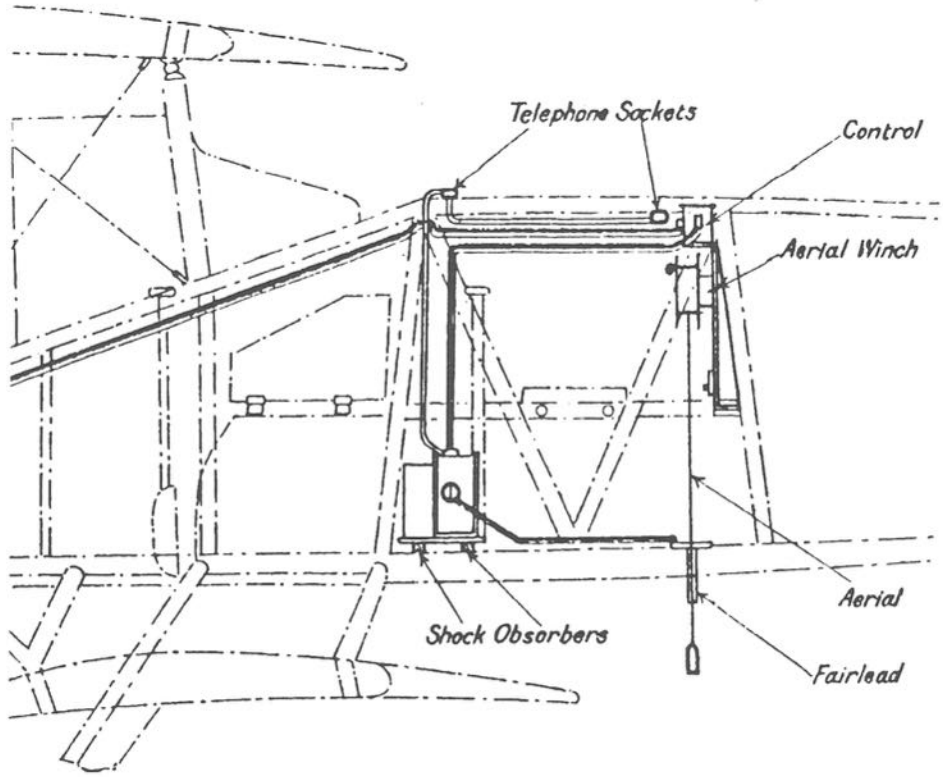
If the ammeter reading in the air is low, or the spark is bad, the battery may be run down or the trembler not properly adjusted, usually caused by not tightening the lock-nut up sufficiently during the ground test, or the spark-gap electrodes may be dirty or wrongly adjusted. The fault may be also outside and out of your reach. The only thing you may do to improve matters is to adjust the spark gap. Under no circumstances make any alterations or adjustments while flying except that of the spark gap and the tuning clips, and never adjust the latter with the key depressed.

Before sending any message, send the letter V for three or four minutes and also your call letters at times. This is to give the operator on the ground an opportunity to tune his receiver so as to get best results, and the sending of the call letters is advisable so that the ground operator may keep in touch with you and not take signals from another plane working within range, whose messages are intended for a different battery. Before coming down reel the aerial drum right up and after landing see that the accumulator is removed for testing and if necessary for recharging.

General Notes

Never attempt stunts on an aeroplane fitted with wireless. Do not sacrifice clearness of signals for the sake of extra speed. Always test the spark before leaving the ground. (Unless a ground test is carried out.)

Remember that the strain on an operator listening intently for your signals is great. The signals are never very strong



Part of a drawing 'Specimen Fitting, Set Receiving in Bristol Fighter', from a January 1918 pamphlet describing the 'Telephone Wireless Aircraft, Mk.II – Set Receiving', issued by the Signals Experimental Establishment . It shows the arrangement of the trailing aerial and its winch and fairlead.The heavy line leading off to the left is the earth connection, going to the engine bearer

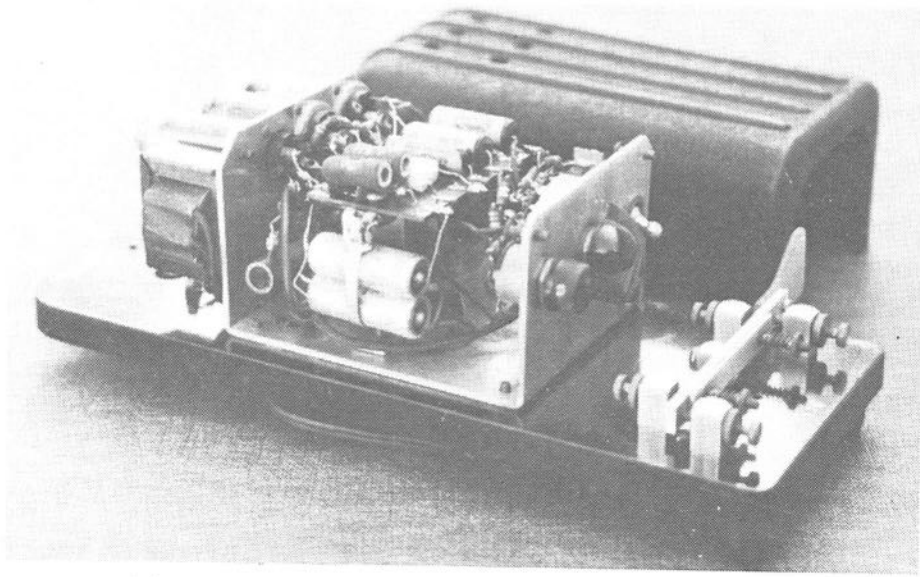
and they vary, also he has to distinguish between your signals and other wireless sets working within range. A complete understanding between the pilot or observer and the ground wireless operator is necessary to secure the best results. Always ask the wireless officer for assistance or advice when in difficulties.

A ground test should be made sometimes at night, with the aerial out, to observe for any sparking. All parts of the set, and especially the bare copper helix, must be kept clean. The fair-lead must be kept free from oil and mud or dirt, and good contact with the aerial ensured under all conditions in the air. If the aerial makes bad contact, or touches any part of the machine, intermittent and weak signals will result.

The cord between the drum and the aerial may become loose or worn, or it may stretch or become damp; this should be seen to. Great care should be taken that all screws and lock nuts are tightly secured before every flight, as the vibration is likely to shake them loose. *MM*

Showcase

Featuring keys and other collectors' items of telegraphic interest.
If anyone can add to the information given please contact TS



Collection/photo: David Couch VK6WT

MON-KEY, made by Electric Eye Equipment Co., Danville, Illinois, c.1950

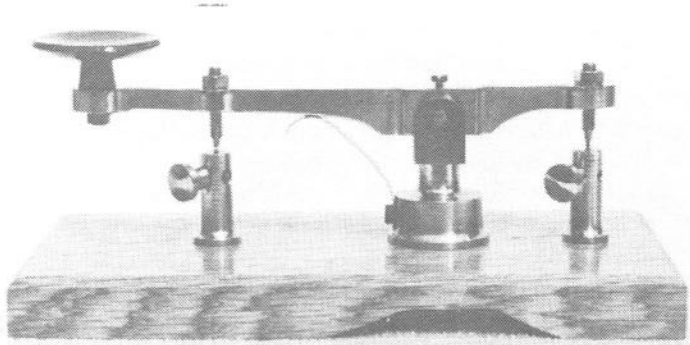
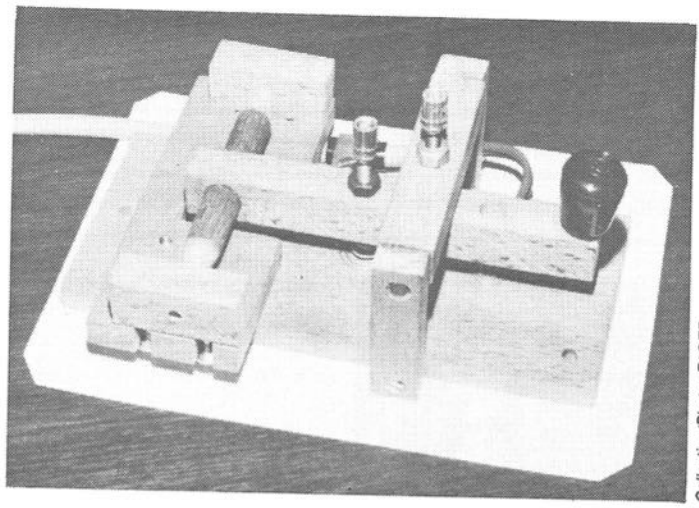


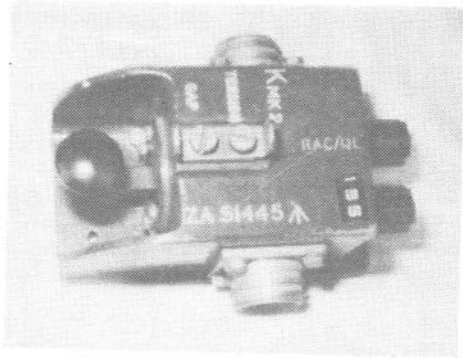
Photo: G3LLZ

Replica key, Lever Correspondent. From a line drawing in a book of 1870.
Built by Dennis Goacher G3LLZ



Collection/Photo: F1OEB

Wooden key (beech) made by F6EQC, size 130x90x30mm, weight 120g. Dominique Bourcart F1OEB reports that the gap needs fine tuning from time to time depending on the weather, and the key can also be used as a moisture gauge! Nevertheless, it has a nice precise contact and sound. He likes the narrow knob (from a chair foot) which is perfect for the 'French style' of keying; forefinger on the knob, middle finger on one side, thumb on the other, and wonders if other MM readers have used unusual materials, etc., for their keys?
(Perhaps readers could also send us details of their national keying styles? – Ed.)

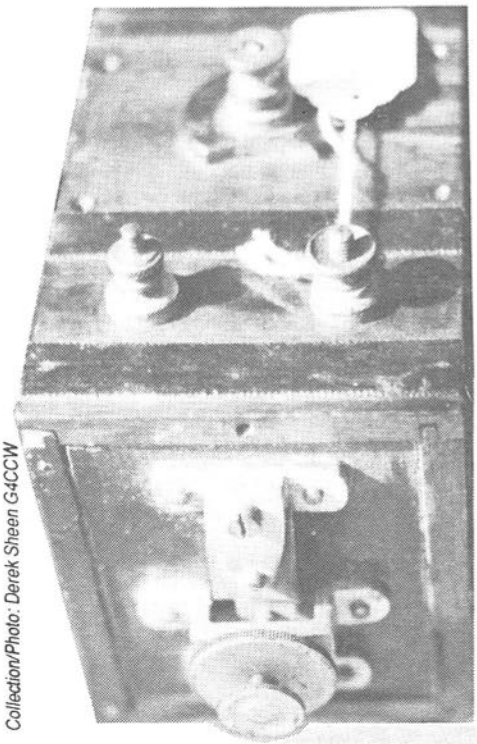


Photo/collection: John N. Elwood WW7P

KMK-2 key, maker possibly SMD, South Africa. Mounted upside-down in heavy aluminium case, with flameproof/weatherproof(?) seals/gaskets around lever arm and removable bottom of case. Spark suppression circuit built into case. Socket on left side, 6-pin male, on right, 6-pin female (one set of wires from sockets connected to key contacts). Adjustment of tension and gap, also terminals for incoming wires, outside case. Key arm marked ZA 46593. Case marked ZA 51445, also RAC/QL. A similar key (collection Jon Hanson G0FJT) is marked RAC/TG and also has a NATO Stock No. 5820-99-949-1174. Information on the use of this key required

Info Please!

Readers require further information on the following keys, etc.
Please write to Tony Smith, 1 Tash Place, London N11 1PA, England, if you can help.
All useful information received will be published in MM *in a later issue*



Collection/Photo: Derek Sheen G4CCW

Unknown sounder or repeater relay. Information required

Unknown key belonging to a friend of Dennis Goacher G3LLZ. Information required

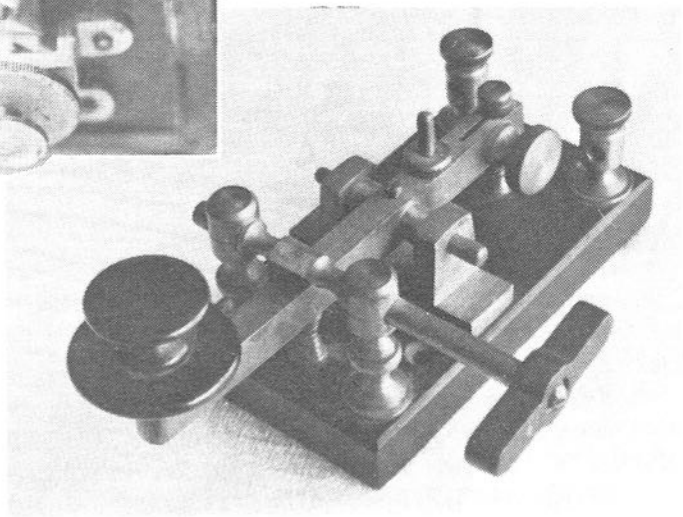


Photo: G3LLZ

Samuel F.B. Morse and Porte Crayon

from 'The Comstock Load'
by Jim Comstock.
***The West Virginia Hillbilly*, 4 July 1991**

ON THE LETTER PAGE this week is a message from Doris Poinsett of Washington DC, telling us that the recent bit on the 'Story of Our Country' page on Samuel F.B. Morse has been sent by Mr Poinsett to Tony Smith, an editor of a 'Journal for Morse Enthusiasts', published in England. I didn't know that an organization of Morse fans existed. Morse had a West Virginia association which my encyclopedia records, and I would like to copy the item with the suggestion that Tony Smith might want to include it in the Morse annals.

The association has to do with one of West Virginia's most spectacular sons, David Hunter Strother, a native of Berkeley Springs, who served *Harper's Weekly* as a writer and illustrator under the pseudonym of 'Porte Crayon', became a Union general in the Civil War, an ambassador to Mexico, and has a mountain in the state named for him.

His Morse connection is that as a young man he studied art for two years under the future inventor of the telegraph. My encyclopedia tells this interesting story, with credit to the late Charles Carpenter:

At that time Morse was under dire pecuniary circumstances as a result of the expense and time he had spent on the telegraph. 'I remember,' Strother wrote (I quote from Bolton's *Famous Men of Science*), 'that when my second quarter's pay was due, my remittance from home did not come as expected; and one day the professor (Morse) came in and said courteously:

"Well, Strother, my boy, how are we off for money?"

"Why, professor," I answered, "I am sorry to say I have been disappointed; but expect a remittance next week."

"Next week", he repeated sadly, "I shall be dead by that time. Yes, dead by starvation!"

I was distressed and astonished. I said hurriedly: "Would ten dollars be of any service?"

"Ten dollars would save my life; that is all it would do."

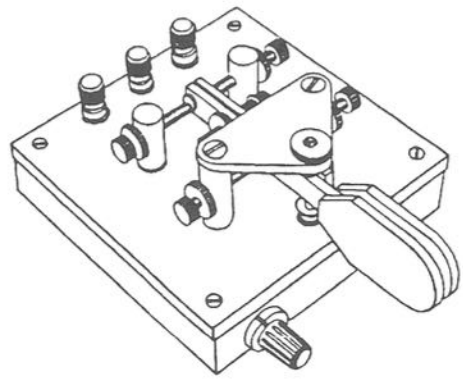
I paid the money, all that I had, and we dined together. It was a modest meal, but good, and after he had finished he said: "This is my first meal in twenty-four hours. Strother, don't be an artist. It means beggary. Your life depends on people who know nothing of your art, and care nothing for you. A house-dog lives better, and the very sensitiveness that stimulates an artist to work keeps him alive to suffering."'

But David Hunter Strother was the type of person who, undaunted, worked ahead. A couple of decades earlier his drawings might have passed unnoticed. But the time was ripe for just such work as 'Porte Crayon' had a genius for, and he fared better from his art than did his famous friend Morse... *MM*

The KHZ Electronic Keyer

REPRODUCTION OF G3KHZ's QSL card, depicting an electronic keyer circuit, in the 'Morse QSLs' series, in MM24, prompted Maurice Small G0HJC to send *MM* a photograph of his own KHZ Keyer, together with an information sheet dated 1985.

MM then contacted Derek Cox G3KHZ, to ask if the key was still commercially available and received the following updated information from him on his products:



The KHZ Single Lever Electronic Keyer

Inspired by CMOS

Derek designed the original electronics for his keyers about 18 years ago when CMOS logic became available at attractive prices, and there have been several minor updates since then.

CMOS logic, with its extremely low power consumption, prompted him to design a circuit which could be powered by a small battery. The stated 'mark' period consumption of the keyer is basically the current required to energise the reed relay used for keying the transmitter.

He originally sold only the PCB kit but was frequently asked for a paddle to go with it. After two years, the single lever integrated keyer was launched and five years later he introduced the integrated twin paddle keyer.

Current Models

These two models are still available, both using the same PCB/electronics. One has a single-lever paddle and the other a twin-lever 'squeeze' paddle. Both come as integral units with the electronics housed in a shallow tray beneath the paddle mechanism.

The electronics provide iambic keying (alternate dot and dash) when the twin paddles are squeezed. The circuit also has a dot and dash store. This means, for example, that if you key the letter 'N' all that is needed is a quick flick first to close the dash contacts and then to close the dot contacts. This causes the circuit first to store and send a dash followed by a space and then to send the stored dot. In this example, the store facility allows the dot contacts to close at any time during the production of the dash or its following space period. This gives the operator maximum latitude in time to make the dot closure before the 'N' becomes mis-timed.

Store Activation Delayed

What is often not appreciated, says Derek, is that the iambic circuit with stores is not the ideal circuit to hang on the end of a twin paddle. Remember, if you keep the paddle squeezed the stores will remain 'full', i.e., as soon as, say, a dot has ended, if the contacts remain closed the dot store is immediately 'refilled'.

This means that if you wish to squeeze a letter 'A' then you need to open the dot contacts before the dot has finished or you will store and send another dot resulting in an 'R' instead of an 'A'. Many up-market rigs with built-in keyers, he says, have this problem.

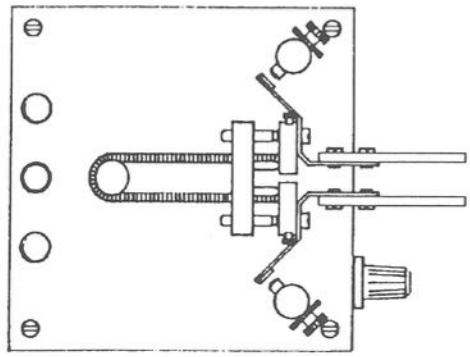
The KHZ electronics do address this problem. With the single lever paddle the stores are extremely beneficial and no extra 'dit' is generated. For those preferring the squeeze paddle, store activation can be delayed until the end of the space following the dot (or dash). This gives you twice as long to open the dot contacts before producing the erroneous 'R' instead of the desired 'A'. This is achieved by relocating the return line connection from the paddle to an alternative terminal pin on the PCB.

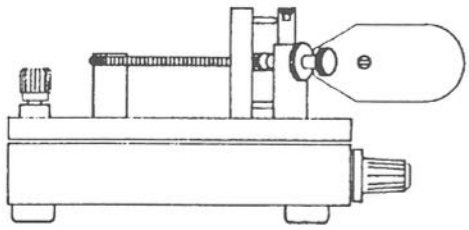
Basic Information

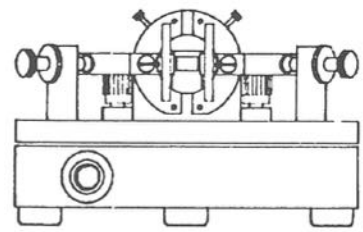
Paddles: Heavy-duty brass mechanism; heavy steel base, silver plated contacts; contacts and spring tensions adjustable and fitted with knurled locking rings; baseplate finished with green stove enamelled paint; paddle handle, polished orange acrylic; tray, plated and painted grey; provision to fit a 6F22 (PP3) battery in tray.

Circuit: Automatic 3:1 dash/dot ratio; dot and dash memories; voltage range 6–15V; quiescent current, 'a microamp or so' (no switch required or provided); current during 'mark' periods, 6mA; PCB has four CMOS ICs; a preset potentiometer accessible through a hole in the base sets the dot/space ratio; a potentiometer mounted on the tray front provides a reasonably linear speed control from approximately 10 to 50 wpm.

continued on page 31







The KHZ Twin Paddle Iambic Keyer

Reflections from Uncle Bas – 16

Other Duties

by Bastian van Es PA0RTW

WHEN THE CAPTAIN told me to accompany six crew members to the doctor, I realised that apart from radio the Radio Officer had many other duties to perform. The crewmen were not in poor health, but in a previous port they had run into a bad case of VD which needed immediate treatment.

That's why I found myself early in the morning on my way to the doctor's office with a group of laughing, joyful, sick and wounded seamen.

The temperature was at least a hundred degrees, which is not unusual in Pointe-à-Pitre in Guadeloupe, in the West Indies, and although it was only a few minutes past six o'clock there were many people on the streets. This was natural, because they wanted to complete their duties before noon when the temperature becomes unbearable.

The men in our little group were not exactly unhappy. You could almost say they were in a 'party mood'. They had the day off and as soon as they saw a pub they headed for it.

Authority Zero

I had been ordered to get them back on board as soon as possible after visiting the clinic, but my authority proved to be zero and they took no notice of me. There I was with a group of rebellious, joking party-goers intent on spending their wages on beer and rum, so I gave up and joined them in a small dark bar.

After an hour or so, and after finishing my cuba-libre, I finally succeeded in getting them out of the pub and on their way to the doctor's. It is a small town and fortunately it was not far to go. The clinic smelled of disinfectant and soap, exactly the same as doctors' rooms and hospitals all over the world.

The doctor, who I'm quite sure was a real Frenchman, addressed me in beautiful fluent French phrases of which I understood not one word. We were taught French in high school, but apart from 'la plume de ma tante' very little had remained.

Nothing Unusual

The medicine man, perfectly aware of my ignorance, took charge. He gestured to the men to lower their pants, which apparently they did not consider at all unusual. The doctor was obviously used to such patients and their diseases and without losing any time he prepared penicillin injection needles for them.

After a short look at the patients he gave each and every one a shot in the bottom party. It was obvious they were used to this kind of treatment. They put their clothes in order and prepared to leave the clinic.

I had to sign a few papers, with which the doctor no doubt obtained his fee from

the local shipping agent. He gave me a strong handshake, no longer paying any attention to his patients, and wished me a friendly 'au revoir'.

Scared

The moment we were in the street the 'party mood' returned at full blast, a mood that scared me enormously. Imagine a young thin boy, on his first trip, among a group of big, strong, boisterous Norwegian sailors!

How could I make them do what I wanted, which was to get them on board as soon as possible. Although I didn't think I could do it, they had much more sense of responsibility than I expected. Apart from a few beers on the way back, in a relatively short time the entire group was back on board again.

I was flushed with success, but the captain's welcome broke my illusion. 'Hello Sparks. How come you're back so early? Were the bars closed?' *MM*

The KHZ Electronic Keyer

continued from page 29

Prices

The complete single-lever keyer, assembled and tested – £58.00 plus £3.00 postage.

The complete twin-paddle iambic keyer – £73.00 plus £3.00 postage.

Printed circuit board complete with on-board components, including ICs, IC sockets, speed potentiometer and battery connector – £16.50 plus 75p postage .

Printed circuit board as above, but assembled and tested – £17.50 plus 75p postage.

Orders or enquiries to Joyce A. Cox 18 Station Road, Castle Bytham, Grantham, Lincs NG33 4SB, England.

MM

Beginners Corner

Points for Beginners

by Geo Longden G3ZQS

MOST OF THE 'Q' SIGNALS in use on the amateur bands have meanings that bear no relationship to the original. Some are used less frequently than others and while I would not expect you to remember them all, you may like to keep a pad handy with some of the more unexpected ones written down in alphabetic sequence.

QSX

On 2m, for instance, rather than clutter up the calling channel with unnecessary replies to my CQ, I frequently programme my FT-290 to receive on a separate frequency and modify the CQ call to: 'CQ de G3ZQS QSX 125'. This tells any station listening that they should respond on 144.125MHz when I finish transmitting, and that I shall be listening on that frequency.

I really feel that this should be the normal practice; that stations should first select a preferred frequency and then, after ensuring that it is not busy, shape their CQ calls accordingly.

QTR

'What time did we start this QSO?' is one question frequently directed to me. Here, the little-used QTR comes into play.

'QTR START?' to a moderately experienced operator will usually result in the desired information. If it doesn't, then you will just have to spell it out, but at least try it.

QTH

'MY NAME IS FRANK, MY QTH IS WIGAN'. Abbreviate it a little. 'NAME FRANK QTH WIGAN' carries exactly the same information, or even 'ERE FRANK QTH WIGAN'.

Keep it Short!

'SO BACK TO YOU GEO'. Why not 'OK?' or 'OK GEO?'. Strictly speaking, neither is necessary; stop where you wish and a simple 'de G0ZZZ' is all that is needed.

If you intend to close down, send 'de GX0IPX $\overline{VA}$ CL'; no need to write a book about it!

QRI?

'WHAT DOES MY SIGNAL SOUND LIKE?' This one in particular causes a lot of head-holding. 'QRI?' is quite the same thing.

I usually reserve 'OP' for such occasions as 'de GX0IPX OP G3ZQS NAME GEO', etc.

Signal Report

Initial replies to calls also tend to be unnecessarily complicated. 'GE OM 569' or (if the station is known to you), 'GE BOB 569'. You have saved the time you would have spent in sending 'YOUR RST' and can continue from there with 'long time no see', or whatever. Only an absolute raw beginner would ask you for an RST report after that opening.

QRL?

A floating jug handle (question mark on its own) probably means that someone is questioning if the frequency is busy. 'QRL TNKS' means you will miss little of what is being sent to you, and at the same time you will avoid the hassle of a CQ call being made on top of your 50mW contact with VK3(!). OK, the guy should have said 'QRL?' but maybe he suspects that he could be causing interference so he is reducing it to the minimum.

Remember that if someone gives you 599 you are rather insulting their intelligence, or at best questioning their ability to copy, if you repeat your NAME/QTH more than twice. Under these conditions, if your code is as it should be, it will be read first time.

NICE CUAGN

Get your thoughts clear right from the beginning. If someone addresses you by name and says it is nice to hear you again, it is pointless going through the rigmarole of NAME/QTH since he knows this already.

If you are embarrassed and cannot recall his details, then 'SRI NAME/QTH?' saves a lot of palaver in explaining that you do not have the advantages of his computer set-up or superb memory.

Another source of embarrassment is the question which is not fully received or is not understood. 'SRI UR QUERY?' or 'SRI AGN?' earns you a repeat with no blushes.

With apologies to those who have no need of this advice...

Condensed from the Newsletter of FISTS CW CLUB, *September, 1990*

Bookshelf

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

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Women of Wireless

by Olive J. Roeckner VE7ERA

AS A FORMER SEAGOING brasspounder, it saddened me to learn that CW was soon to be phased out commercially. No longer the friendly chatter of Morse around the world as ships on vast oceans reach out to other ships, or to coast stations on distant shores. The days of the wireless operator are numbered, soon to become just another illustrious chapter in maritime history.

Before the memories of those years become too dim, I would like to acquaint the reader with a relatively little known fact. Mention 'wireless operator' to the average person and an image comes to mind of a lone man hunched over a key, surrounded by a confusing array of switches and dials. A somewhat mysterious figure perhaps, the link between a ship and the rest of the world.

How many are aware, though, of the part women have played in the annals of seagoing Sparks, in particular Canadian women? Their numbers are few, but they are deserving of mention.

From 1910

Records indicate the first young woman to serve at sea as a wireless operator was American, a Miss Graynella Packer. The year was 1910. Miss Packer only remained a few months, but by the end of the 30s at least 13 other young ladies had operated on vessels along the Atlantic and Pacific coasts and on the Great Lakes, their lengths of service varying from a few months to several years.

With the outbreak of WWII began the Battle of the Atlantic with its savaging of convoys by U-boats. Ship losses meant losses of trained personnel, including wireless operators.

In 1940 the Merchant Marine began recruiting operators in Canada and to a young Ontario girl this was the opportunity of a lifetime. Twenty-year-old Fern Blodgett had grown up with a dream to some day become a sailor. Working days as a stenographer, she attended wireless night classes, gaining her commercial licence 18 months later, only to discover there were no positions for women.

Confident

A few weeks later, however, her former principal phoned and asked if she was still serious about wanting to go to sea. 'Yes' was the answer and that very night Fern was on a train for Montreal. Port authorities there were surprised to find that F. Blodgett was a YL but checked with the captain of the Norwegian cargo ship *Mosdale* to learn if a woman was acceptable. Captain Sunde was desperate for an operator and, as Fern seemed confident, he agreed to her coming on board.

Once she gained her sealegs, she soon proved to be a capable operator. Constant storms were the ship's lot and Fern witnessed the many horrors of torpedoing and their attendant tragedies.

In July 1942, she married Captain Sunde and their honeymoon was spent at sea. In convoy, *Mosdale* was a lucky ship – of the half-dozen fruit carriers to start the crossings in 1940 she was the sole survivor. She could make 15 knots and was often allowed to sail on her own. In all, she made 98 Atlantic crossings of which Fern was aboard for 78.

Fern retired from the sea at the end of the war to make her home in Norway. A book was written of her adventures and *Lucky Mosdale* (Lykkelig Mosdale) became a best-seller in Norway.

Norwegian Acceptance

Fern had proven by her confidence that women were capable of the job and, as there still remained a shortage of operators, the Norwegians had no hesitation in accepting other Canadian girls for the positions.

The second Eastern woman to take to the sea was Esther Crichton of Halifax. She sailed aboard M/S *Narvik* in the Pacific area during the latter war years, remaining with the vessel when it was renamed M/S *Siranger* at the end of hostilities, and retired in 1947.

A number of young women across Canada earned their commercial tickets during the war years, with the majority employed as interceptor operators at various DOT (Department of Transport, now Department of Communications) stations. The first girl in Western Canada to receive her licence was Ina Waller of Kimberley, BC. While Ina did not go to sea, she served in the Marine room at VAI, the Pt. Grey Wireless Station, and as an interceptor operator there and at Victoria.

Horrified!

It is arguable as to who was the first woman operator in Western Canada to go to sea. There were three who sailed in wartime, but the press gave the nod to Ola McLean of Vancouver and Alice House of Port Coquitlam. Both girls graduated from Sprott Shaw School of Radio in 1944. They were doggedly determined to ship out, succeeding later that year.

After an uneventful crossing of the Pacific, a newspaper article briefly reported that Ola and Alice had arrived safely in an Australian port aboard an Allied (not Canadian) tanker after a voyage in which they were treated royally.

It stated further that the two were prevented from signing on a Canadian ship by marine regulations in this country. When an official was asked at the time if this meant that Canada would now allow women aboard its vessels, the response was a horrified 'Good God, no, we have enough trouble on ships now without having women on board!'

Another Marriage

Alice later served on the Norwegian tanker *Karsten Wang* and in 1947 married Captain Olaf Hansen who had been 2nd Officer of the same Norwegian tanker on which she had made her first voyage, the *Kaptein Worsoe*.

Ola McLean remained at sea for a number of years, her voyages taking her to most of the ports of the world. After a year and a half on the *Kaptein Worsoe* in the Pacific theatre of war, she served on M/V *Glorono*, M/V *Beau Regarde* and M/V *Three Rivers*.

The third Western YL with wartime experience was Rosemary Byrom of

Victoria. She joined her first Norwegian ship, the *Jotunfjell* in San Francisco, remaining aboard for a year. Service on three more tankers followed, one of which sailed in the last convoy to cross the Atlantic before VE Day.

From there, the vessel proceeded to South American ports and carried fuel oil to Pearl Harbour for the US Navy, together with planes and tanks for the Pacific war zones. Rosemary retired from the sea about 1947.

Olive Roeckner aboard M/S Siranger *LLMK*

Post-war

After VJ Day, women interceptor operators were released from government service. A few from VAI found employment with the Department of National Defense at a station outside Victoria, replacing personnel being dis- charged. Anna Ozol, who had worked in intercept at the Lulu Island station, went a different route and was successful in securing a position aboard a Norwegian vessel.

While serving on M/S *Skaubo* in the late summer of 1949, Anna achieved the doubtful distinction of being one of the few women, and the only Canadian woman that I know of, who had to send out an SOS. *Skaubo* took on a severe list while about 500 miles off the US West Coast when her cargo of soft ore concentrate shifted during a storm. Happily, the vessel was able to make port without aid.

Home in Vancouver on leave, in February 1947, Anna brought word that a Norwegian ship in San Francisco needed an operator. The message was quickly passed to Victoria and within days Elizabeth King was flying south. In 'Frisco she joined her first vessel, M/S *Vito*, and sailed across the Pacific to the Philippines, Orient and Australia.

She remained on *Vito* just over a year and after a lengthy holiday ashore shipped out again, this time on M/V *Skauvann*. This vessel also sailed the Pacific routes and Elizabeth served aboard until early 1951 when she left the sea for good.

The Last from Canada

When Elizabeth flew off to San Francisco, she was quickly followed by two other girls from Victoria, Norma Gomez and myself. Norma had the poor luck to be assigned to a small coastal vessel, the *Lutz*, which carried newsprint from Powell River to US West Coast ports. Accommodation on the ship was quite primitive, as was the radio room, and Norma retired six months later.

I was more fortunate, replacing Esther Crichton on M/S *Siranger*, a service that would last four years and cover much of the world.

The only other Canadian girl who went to sea in those years was Lylie Smith. She shipped out in 1946 but prior to that had been the first girl radio operator hired by the Hudson's Bay Fur Trade Co. for their northern posts. Probably the longest at sea of any of the Canadian YLs, Lylie spent five years on the Far East routes and another five years sailing between the US, Europe and South America.

By the late '40s and early '50s, Norwegian girls were taking over more of the positions on their country's ships. The few Canadian women operators swallowed the hook and settled ashore, no other Canadian YLs following in their wake. Until 1970, that is, when Dallas Bradshaw from Victoria, BC, went to England for training, becoming the first woman operator to sail aboard a British ship*, the ore carrier M/V *Duncraig*.

Other Countries

Predominantly, it has been the Scandinavian countries who have accepted woman operators in their merchant fleets. Many Norwegian girls served as sparks and at one time at least a third of the radio officers aboard Swedish vessels were women. Other 'progressive' nations have been Denmark, Finland, Germany, Russia and Great Britain.

The US started it all, of course. Although their numbers have not been as great as the Scandinavians, during the latter war years and up to the present, American girls have continued to serve as wireless/radio operators in their merchant marine, Coast Guard, and on Army transport and hospital ships.

A number of YL 'professionals' are also 'Amateurs', with callsigns many will recognise. Known to DXers world-wide is Elizabeth (King) VE7YL and the lucky ones perhaps had QSOs with her when she was EP2ELA and YB0ADT... and who hasn't heard of Kirsti VK9NL or Kari VR6KY? Among some of the lesser known calls are Sylvia LA1OGA, Mikaela DK5EJ/OH2SG, Esther W6BDE and Lota AC7V.

A Last Hurrah!

So, let this be a last Hurrah for Sparks... those ladies and gentlemen deep sea brasspounders. Ships' operators may disappear but Morse will be around for a long, long time, of that I am convinced.

For many of us it is, and always will be, mysterious music that spans the globe... our other language.

If there are any Canadian women who sailed as W/Os whom I have not mentioned, my apologies. Please, I would like to hear from you at PO Box 789, Kaslo, BC V0G 1M0, Canada.

(Reprinted from The Canadian Amateur, *October 1989)*

**A woman radio officer sailed with P&O during the time that I was employed on their shore staff. As far as I recall, she did just a couple of coastal relief voyages to northern European ports.*

I cannot pin the date down exactly, but it would have been about 1963, as I know it was shortly before we left the old company head offices at 122 Leadenhall Street in the City of London, which were demolished in 1964.

She was a very lovely young lady, Mrs Gillette by name, and if I remember aright, her husband was also a radio officer, serving in Norwegian ships. – Ed.

Club Profile - 8

Morse Enthusiasts Group Scotland (MEGS)

MEGS WAS FORMED on 31 January 1991, at a meeting in Glasgow of four radio amateurs who felt that more help should be available to both amateurs and non-amateurs wishing to improve their Morse skills. MEGS is not a 'club' in the same way as other Morse organisations described in this series, although 'club of the air' is one term which has been used to describe it.

MEGS exists to provide assistance to beginners, or existing operators wishing to improve their skills, by offering instruction; practice in reading and sending; and regular skeds on preferred bands. Morse practice tapes are available for those not yet licensed; and guidance and back-up is given for a beginner's all-important first QSO in Morse. If an existing operator wishes to increase speed from 12 to 20 wpm, or even higher, MEGS will be delighted to help.

All Morse enthusiasts, without geographical restriction, are welcome to join MEGS and participate in its progressive training programme, as set out below, according to their needs. The joining fee is £1.00 to cover administration. All instruction is free. Students meet the cost of C90 tapes and postage both ways as appropriate.

Absolute Beginners

For those just starting, learning the code is covered by four tape lessons dealing with the letters of the alphabet, and one for numbers. Once sending techniques have been mastered, regular reading practice is maintained through practice tapes which are updated in speed and content according to progress.

If the student is not in touch with a local instructor, sending practice can be recorded on the 'receive' tape when returned for update so that the MEGS instructor can listen to, and comment on, progress made.

'B' Licensees

For the student who already holds a 'B' licence and is starting to learn the code, a similar method to the above is followed with the additional possibility of practice sessions on 2 metres FM, where practicable.

Such sessions can be tailor-made to suit a student and are often undertaken on a one-to-one basis.

Knows the Code

For those who have a working knowledge of the code but no experience of using it, assistance in attaining speed and accuracy is provided by 'on air' and/or tape practice.

Preparation for Test

For the student who has practically reached Novice (5 wpm) or Class 'A' (12 wpm) Morse test standard, practice consists entirely of Mock Morse Tests,

by tape or on-air, following the official format of the appropriate test. All practice material has been updated to take into account the requirements of the new 12 wpm test in QSO format.

After the Test

For those holding a full Novice or a Class 'A' licence who wish to improve their Morse speed or technique, skeds are arranged on frequencies to suit the student. Practice tapes are available, but students having reached this level are encouraged to use their Morse on-air with standard amateur contacts.

In the early stages, 'rubber stamp' contacts assist in gaining confidence, but the use of Q-codes, abbreviations and full procedure signals is encouraged once reasonable proficiency is attained. The objective is to read with minimum copy and send 'from the head' as soon as possible.

Advanced Techniques

These are normally practised on-air, and include such subjects as keyers and paddles, QSK working, split frequency, working pile-ups, etc.

Special Call

MEGS has been allocated a special call-sign, GM0RSE, which is used for regular skeds on Monday and Thursday evenings from 7.30 to 8.30 p.m. local time, on 3.530MHz (plus or minus QRM). All amateur stations are welcome to call in and work MEGS stations and GM0RSE or GM0RSE/P during these skeds.

During the skeds, GM0RSE is operated only by experienced operators who make initial calls at slow speed, around 12 wpm. Most replies maintain contact at the same speed which MEGS feels is a great incentive for less experienced operators to call in also.

Future Plans

Discussions are taking place on the possible introduction of Achievement Certificates for contacts with GM0RSE(/P) plus certain other MEGS stations at Morse speeds of 12, 15, 18, 20, and 25 wpm. These proposed arrangements have not yet been finalised, but will be reported in *MM* at the appropriate time.

RSGB Practice Morse Transmissions

On behalf of the Radio Society of Great Britain, a team of operators, each using the call GB2CW, broadcast regular practice Morse sessions for learners in Central Scotland. Although these transmissions are quite distinct from the instructional facilities provided by MEGS, most GB2CW operators in this area are, in fact, MEGS members.

The transmissions are on the designated FM CW channel S10 (145.250MHz) every day, Sunday to Friday, from 8.00 p.m. to 9.20 p.m. local time (Thursday from 7.30 p.m.), at speeds of 5, 8, 10, 11, 12, and 14 wpm. The first half hour of the Thursday broadcast consists of mock Novice tests at 5 wpm.

At the end of GB2CW transmissions, all operators give listening stations the opportunity to comment, and most can arrange to provide additional reading and sending practice under their own callsigns. On Thursday, feedback is invited on channel SU18 (433.450MHz) as well as on 145.250MHz.

continued on page 48

Your Letters

Readers' letters on any Morse subject are always welcome, but may be edited when space is limited, or to keep them within our concept of the limits of civilised debate. 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.

Thumb Dah Paddle

After a stroke and heart surgery, my mental and physical co-ordination went to pot and I was unable to handle a straight key. A friend suggested I use an electronic paddle but despite many weeks practice I could not master the thumb dit.

On holiday in the USA, I looked at Bencher paddles in a local emporium and mentioned my problem to the assistant. 'Try this', he said, turning the key over and reversing the connections. 'They come thumb dit as standard but there is no correct way. It's what suits you personally.'

Although I am right-handed, for some reason I can only operate thumb dah. So I bought the Bencher with reversed connections and have been using it for two years now with thumb dah and no problems!

Ivan Sharkey G0CNZ
Gateshead, Tyne & Wear

Early Starters

Like the children of G4VHM (MM26, p.42), I too was an early starter, although some years older than 7 as I had to find out everything for myself in the absence of family or friends involved in amateur or professional radio/Morse.

When I was 11, I received a book of adventure stories for Christmas containing a short biography of Prof. S.F.B. Morse and his famous invention. I must have become infected with the 'Morse virus' at that time because I kept re-reading this story and studying the code.

The code to me was a fascinating different way of communication. By wire or wireless, it was a marvellous idea! I began to learn it just for fun. I looked at two or three characters, then closed the book to test myself. First I did this in alphabetical order, later in random order to be really sure I knew it.

Soon after, I heard my first genuine CW on our kitchen radio, and it galvanised me like an electric shock to my system. I wrote down the Morse symbols as I heard them and decoded them afterwards.

Then my father found a real hand-key in the loft at his work. It was black, Siemens-like, with 'beware of high voltage, unplug before opening' written in German on it; and, with a kit-built oscillator, I taught myself to send on this key.

However, I found I couldn't read my own tape-recorded signals because although I was sending at 15 wpm (I still have a tape to prove it!) my reading speed was only 6 wpm.

My early fascination saved me from having to learn Morse 'the hard way' that most hams experience. In fact, without that fascination, which led to an interest in

wire(less) communication, starting with kit-building, I doubt if I would have become a ham at all.

I imagine there are not many amateurs who actually learned Morse literally 'by playing' like G4VHM's children and myself. I shall be very interested in reading the 'curriculum vitae morsae' of others!

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

I am 20 years old and have been licensed for about 3½ years. I am greatly attracted to the exciting mode of CW. I was taught all I know about radio by a mathematics teacher (ON6QB) at the high school I attended, and he also transmitted to me his love of Morse.

I very soon became a CW-only operator on HF and I enjoy the unique advantages this mode offers. I am currently studying mathematics at university and can't always find the time to be active on-the-air but I hope to find more time later.

Two years ago, I built an iambic keyer, mainly for field-day operating and higher speed contacts, but I still use the straight key for chatting at lower speeds with other enthusiasts. I also collect straight keys, although I only have three at present! I have the same relationship with these keys as described by Gerald Stancey in MM25, p.41, and regularly change from one to another.

Last year I built the CMOS Super Keyer and that day my Accu-Keyer disappeared into the darkness of my cupboard! I am interested in the Young Operators Club as mentioned in MM25, p.17, and hope to find out more about it.

Philippe Cara ON4ACP
Wezembeek-Oppem, Belgium

Well Done Michael!

Further to my letter in MM26 (p.42), I am writing to thank *MM* for taking an interest in my son's Morse. I am pleased to report that he took, and passed, the 12 wpm test at Grimsby on March 24 – on his 8th birthday.

We tried to book the test to take place before his birthday, but unfortunately the 24th at Grimsby was the earliest venue possible. The Novice examination is the next step!

Mike Hindley G4VHM, Hull

G-QRP Novice Starters

Although not addressed to *MM*, Dave Gosling G0NEZ, G-QRP Club Novice Manager, has sent us some letters he has received from Novice members of the club which he feels will be of interest to readers of *MM*, showing how today's beginners are getting into CW.

The first letter is from Jenny 2E0ABC, in Liverpool, who is 13 years old. She says the amateur radio virus was passed on by her dad, G0MJG, and that with her brother also a licensed Novice, plus her grandad and his brother also licensed amateurs, she had no choice but to carry on the tradition!

She has built her own DTR3 80 metre rig and is building a narrow-band audio filter to help improve CW reception. She has already entered the slow-speed CW contest, and is close to qualifying for several QRP Club awards.

Philip Earnshaw 2E0ABI, from Scarborough, is 12, and uses a Yaesu FT-77 with 3 watts out on 3.5, 10, 21, and 28MHz, plus a handheld for UHF, and reports working into the USA on 21MHz.

Carl 2E0ADH, from Darlington, uses a Bencher paddle with an FT-101ZD, running 3 watts into a G5RV antenna, and has gained the G-QRP Club class 'A' Novice award.

An older Novice is John Hemming of Birmingham (call not known), who is 26, married with 3 children, and plays in a rock band called 'Essential'. He uses both SSB and CW, with powers ranging from 500mW to 3 watts and has worked many countries including VK (Australia) and W (USA).

Finally, Tom Cannon 2E0ACY also appears to be a more mature Novice as he admits to writing on his children's notepaper(!). He had to 'work very hard' to get his licence and Morse pass slip, and was rewarded when his first contact on 15 metres crossed the Atlantic to the USA.

Gamages Key?

The 'unknown' key on page 26 of MM26 may be from Gamages. I had a similar key recently with the name stamped on the front edge of the wooden base. I know that this famous London store sold radio parts and kits from as early as the 1920s, but who made the key for them is anybody's guess!

Its quality is poor and I cannot believe it was intended for serious use although, unusually for a cheap key, the base is probably mahogany. Perhaps the key was part of a junior training set, complete with buzzer or low-voltage lamp?

Harry Mace G4ZJB, Sheffield

(MM is still collecting material for a feature on Gamages Morse products. Photographs, copies of catalogue pages, information or recollections will be welcome. Please contact Tony Smith if you can help.)

Amateurs on 500kHz?

It seems 500kHz is in for a slow demise, what with the advent of GMDSS and the fact that ships are now operating with Radio Officers with no CW tickets.

If the distress watch is to cease altogether, something that seems very stupid to me, does anyone know what will happen to this band in the distant future?

Perhaps, when the last CL has been sent, it could be retained as a CW-only band, leased to the amateur service?

If we are now to go for code-free HF bands, it would be nice to have a phone-free band which has been steeped in history from the start of wireless.

John Davies G4ETQ, Worcester

(It sounds a nice idea but I shudder to think of the size of the antenna required and the potential television and broadcast interference caused! On the receive side, there is the problem of domestic interference, as the marine MF band is full of harmonics of TV line timebases, e.g., 500 is the 32nd harmonic of 15.625kHz – Ed.)

CW/Mobile

I'm amazed that you should publish a letter from Neil Little (MM26, p.47) regarding CW operation whilst driving a car. This letter, with your help, will just encourage others to indulge in this very dangerous practice.

Any person who admits to this and who, at the same time, claims to be concerned about road safety is guilty of the most irresponsible behaviour.

George Thorne G7KPK, Stockport

Neil Little replies:

I can understand a concern for road safety but may I suggest that G7KPK directs his

comments to users of hand-held car telephones, or to drivers who turn to look at their passengers when conversing in a car. I recently met a driver using a telephone coming round a right-angle bend in a country lane.

There are quite a few /M CW operators in this country who, like me, have had thousands of miles of safe /M CW motoring, and there must be hundreds in the USA. *QST* has published a couple of articles in the last couple of years encouraging /M HF CW, e.g., 'A1: It's not just for Homeburgers', August 1991, and 'You can operate HF Mobile', February 1993.

I wrote to *QST* in July 1988 and October 1991 trying to draw attention to the safety aspects of /M CW but had no response. I was pleased, therefore, that *MM* published my letter so that we could have an open debate on the matter and perhaps improve things further.

I believe that /M CW is safe under appropriate conditions, but not when driving in winding country lanes, not driving around roundabouts, not when you are unable to copy CW effectively. The criteria to be used is the application of basic common sense.

I would say to G7KPK that people will not be stopped from operating /M CW because it is a basic extension of our hobby, but they should be encouraged to take due care and pay attention to safety.

Neil Little GW3YVN, Caerffili, Wales

When I worked CW/M from my car in 1986–87, I used a home-made finger-touch paddle made from two pieces of copper fastened to the handbrake. This worked very well except in cold weather when (drier?) fingers do not make good contact.

For right-handed operators this arrangement, of course, only works well when the driver's seat is on the left!

Jens H. Nohns OZ1CAR
Bording, Denmark

My son, who is disabled, drives a car with only one hand, using a steering knob. Suspended from this knob, loosely pivoted and counterbalanced so that it always stays upright, is a little switch panel. This is an infra-red transmitter controlling a receiver in the roof which operates lights, horn, winkers and wipers.

Made by Alfred Bekker, Driffield, East Yorks YO25 0TF, this could easily operate a CW transmitter without any need to take a hand off the wheel. Installation in a car costs the earth, but radio amateurs using TV control boxes should be able to manage something.

Rev. Duncan Leak
Stoke-on-Trent, Staffs

(Views expressed in readers' letters are those of their authors. In the interest of lively debate, we are happy to print opposing views on any Morse subject. – Ed.)

More Closures

A few days after I telephoned Tony with the news about US Coast Guard stations discontinuing all Morse code services on MF (MM26, p.5), I was awoken at 0700Z by a phone call, 'G'day Bruce, Adelaide Radio here!'

This call was to tell me that Australian coast station Adelaide Radio/VIA was to close the following Sunday (January 31) at 1330Z, 2400LT. They had heard my tape, *500kHz – the End is Nigh!*, thought it was a wonderful project, and asked if I was interested in listening to the final close-

down of VIA? What a question! The result was they opened the landline (probably satellite) from 1310 to 1340 and I listened to the whole glorious, though sad, event. VIA went SK and SM (silent mike!) and I heard the lot through the noise of fifty people crammed into the operating room!

I could hear the W/T announcement on 500kHz, and replies from most of the other Australian coast radio stations sending their farewells, although not, alas, New Zealand. There was also R/T nostalgia on 2182, 4125 and VHF, with cheering, *Auld Lang Syne* and clapping apparently coming from all the various R/T systems!

Naturally, I recorded it all via my phone patch system; and the manager of VIA, Fred Reeve VK5YK, is also sending me the recording he made at the station. He had alerted the local media, and I understand the TV and radio people were there.

I felt the event should not go unmarked by European coast stations so I spent most of the morning beforehand making numerous phone calls. The result was a flood of telex messages of farewell to VIA from Burnham/GKA, Portpatrick/GPK, Malin Head/EJM, Brest-le-Conquet/FFU, Ostende/OST, Scheveningen/PCH/PBK, and Norddeich/DAN!

The next station to go will be Brisbane/VIB and I shall be keeping tabs on that one. I am also preparing my onslaught on the US Coast Guard close-down, via the USCG itself, the remaining commercial stations and my many contacts generally in the US.

Other news is that Netherlands Coast Guard Radio, PBK, is to close finally on December 31 and that OST is to take over the 500 distress watch. I suspect that this also means that PCH will cease all MF and HF W/T.

Bruce Morris GW4XXF
Tywyn, North Wales

(Bruce is performing a unique and invaluable service in recording and compiling the historical closing down signals of coast stations around the world. Edition II of his cassette, 500kHz – the End is Nigh!, *containing recordings of eight of these emotional events is available from him for £10 including postage (or $20.00 US – in dollar bills only), at 62 Gerllan, Tywyn, Gwynedd, North Wales LL36 9DE.*

He hopes to produce edition III by Christmas 1993 adding, at the very least, the closures of North Foreland/GNF, Victoria/VAK, Esperance/VIE, Thursday Island/VII and Adelaide/VIA. – Ed.)

Super Keyer II

Recently you published a couple of reviews of the Super Keyer II (MM25, p.18). I decided that I could not live without such a keyer! I sent off my cheque in dollars (the cheque cost £10.00!) to Idiom Press and within ten days the eagerly awaited package arrived safe and sound.

It was excellent service from Idiom Press and, needless to say, the completed keyer certainly lives up to its name!!

Jack Burgess G3KKP, Leeds

Vibroplex Keying

I was intrigued by VE2ZK's comments (MM26, p.40) on Horace Martin and the Vibroplex key. Whilst I cannot confirm whether Martin was indeed left-handed or right-handed, I do believe that reference to the early Martin patents, notably the 1907 Patent 842,154, indicates the VE2ZK assumption to be incorrect.

The reason the thumb is used to control the dots is answered by VE2ZK himself in his second paragraph. Although deviating from Martin slightly, Coffe, in Patent 812,183, and La Hiff, in Patent 2,187,351, both clearly refer in their texts to use of the thumb to control dots.

Having said all this, I know of one left-handed operator who produced commendable code for many years on a conventional right-handed Vibroplex, albeit with the thumb and finger pieces reversed.

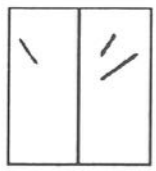
Colin Waters G3TSS
Corbridge, Northumberland

Early Galvo

I have a galvanometer similar to the one described by John Houlder (MM25, p.42). However, mine carries more information.

Below the terminals on the side face of the mounting block, stamped in a circle, is SIEMENS BROS & CO LTD LONDON. The opposite face is stamped 20880. This face also has two small threaded holes, perhaps for an identifying plate.

The underside of the base is not varnished, and has '44' marked in lead pencil near one corner. The base also has four mounting holes; one either side of the coil and one behind each terminal, the latter two being countersunk.



The face of the instrument itself is translucent with markings on the inner face as shown (left). I have omitted the needle for clarity. The opposite face is glass. Coil resistance is 30 ohms and 1 volt gives full scale deflection. The terminals are not slotted.

Peter Lord VK3N/XPL
Camberwell, Victoria, Australia

Yet More Media CW

I refer to the inquiry from Claude Passet (MM24, p.43), about radio or TV stations using CW.

In Michigan, during the Spring and Summer months, the weather can get nasty with severe thunderstorms or tornadoes.

When the weather service announces a watch or warning, TV stations Chs. 3 and 8 get your attention by calling '3' or '8' three times in Morse, then announce the warnings in voice.

Tim Zimmer N8QFC
Wyoming, Michigan, USA

Exchanges Wanted

I have a collection of keys from USSR, Bulgaria and Germany, and have many duplicates I should like to trade for keys and keyers from other countries.

I also have some WWII military receivers, transmitters and other equipment, again from USSR, Bulgaria and Germany, if they are of interest.

I am a professional radio engineer, retired early with ill health. I have been a radio amateur since 1960, I am the LZ (Bulgarian) Award Manager, and work all HF bands with CW only.

If any *MM* readers are interested in possible exchanges as suggested please write to me as follows:

Minko Lubomirov LZ1XL
P.O. Box 6, 1373 Sofia, Bulgaria

Annoying Obstacle

Your editorial (MM25, p.1), quoting George Benbow's hope that newcomers will no longer regard Morse as 'an annoying obstacle' to the acquisition of an amateur Class A licence, raises an interesting point.

This viewpoint undoubtedly exists, and it is possible that the mandatory requirement for a knowledge of Morse actually inhibits appreciation of the code as a fun or challenging activity. Most things are more fun when done voluntarily!

Bob Eldridge VE7BS
Pemberton, BC, Canada

Abbreviations and Procedures

Referring to previous correspondence relating to the use of the abbreviation of 'II', I first came across this in 1967 while serving as a telegraphist in the RAF.

At the time, I was using a Morse circuit for live traffic. RTTY had not yet been introduced but we were using RTTY procedure instead of CW procedure.

As some *MM* readers will know, it is important in RTTY to get the line feeds in the correct place; and we (Royal Navy and RAF) used 'II' to tell the receive operator to go to the next line.

As project manager of the RSGB (GAM1) propagation information broadcast service, to be transmitted on 3.821MHz, one of my jobs has been to formulate the transmitted message. I, of course, will be using 'II' to tell the receive operator when to go to the next line. The message will not make a lot of sense otherwise.

G. Williams G4FKH
Chelmsford, Essex

(There is further information about the GAM1 broadcasts in the News section of this issue. – Ed.)

A few comments on the recent correspondence in *MM* about abbreviations and procedures. As a sea-going sparks, when sending a series of telegrams, each telegram commenced with CT barred and ended with AR barred. The SK barred was used as the absolutely last signal, following immediately after my callsign and indicating the end of QSO.

As a sparks I used both · · – – · · and · · · · when repeating figures or words. As to the exclamation mark, this still exists among Swedish amateurs, who send · · – –.

Jens H. Nohns OZ1CAR
Bording, Denmark

Sounder or Tone?

Contrary to the (old) conventional view referred to in 'Who Buzzed First?' (MM26, p.12), operators trained on sounders have no trouble at all going over to reading buzzer or tone signals. When you learn sounder your brain recognises the rhythm of the signal rather than the lengths of its individual elements.

However, the reverse is not true – people who learn on tone can't make head nor tail of the click-clack of sounder signals. After listening for a while they can make out the occasional letter but they never seem comfortable with it. Usually they have no need to learn sounder signals so they quietly give it up.

(I was trained using tone signals, and later adapted with some initial difficulty to flashing light, but my past efforts at reading Morse from the clicks of a key have failed dismally. During my visit to the Porthcurno Telegraph Museum last year, the Curator sat down and began to send to me using a demonstration key and sounder set-up. I was pleasantly surprised to find that the sounder produced a totally different and distinctive signal, which I could read quite easily. – Ed.)

The reason sounders were used extensively and for such a long period was their technical simplicity. A landline needed only a key and a relay in the line circuit plus a 'local' battery and sounder. Apparatus for generating tone would not be nearly as rugged as the simple old sounder equipment.

I was intrigued by the description of the 'Transmitter, Vibrating', using a telephone receiver. They could have saved themselves the trouble if they had used the system I and some of my renegade telegraphist mates used. You can send signals with a fairly hefty battery across a line containing a telephone receiver and nothing else.

Starting with an open circuit, you bang a piece of wire against another piece and the diaphragm of the telephone headset bangs back against its support with a very satisfying 'clack'. Taking power off allows the diaphragm to return to its original position. This sound is not nearly as strong as the 'mark' condition but it does provide readable Morse.

Of course, it's much simpler connecting a key across the wires. I think it was fairly hard on the diaphragms, but it was a lot of fun...

Gordon Brown VK1AD
Manuka, ACT, Australia

More on KFS

There were a number of errors in the summary of my presentation on KFS operations ('Commercial CW at KFS', MM26, p.9), due in part to the presentation being tape recorded in a rather large room and transcribed later.

KFS began operation in 1910 using arc transmitters, not spark as stated. The 30kW transmitters used the Fessenden arc system, hence the callsign KFS for 'Fessenden System'. The receivers currently in use are Watkins-Johnson WJ-8718 types. The three stations operating on the west coast are KFS, KPH and KLB (not KOB).

KFS and KLB were sister stations both having been owned by ITT World Communications. KPH is not and was never associated with KFS or KLB except in direct competition. KFS was originally a Federal Telegraph Company station. KPH was a Marconi station in the beginning and is now an MCI station. KLB was purchased from ITT by three of its operators (not one) and is located on acreage belonging to one of its owners.

Each CW operating position at KFS has five receivers; i.e., three sets for HF CW bands, one set for 500kHz and one scanner. When a ship calls, the KFS operator deselects the appropriate transmitter's keying from the 'wheel' using a button and this connects it to his key line.

As for the Alaskan ship emergency, the 500kHz emergency equipment is required aboard all ships of that size. It was obviously the ship's Radio Officer who put it into operation, not a 'crew member'. The Coast Guard is stopping CW operation on MF ONLY. They will continue to provide CW operation on the HF bands although your report in the same issue (p.5) does not make this clear, referring only to MF operation.

Messages on the carousel are not on different coloured paper but the callsigns are written in different colours, denoting the day of receipt of the message. Seven-day-old messages are not 'sent back' to the originator. They are cancelled and a

service message so stating is sent to the originator.

On sending messages automatically, the statement I made was that the messages could be retrieved automatically, not sent automatically. It is preferable to send them manually because the receiving operator will likely break you for fills.

On working Cuban ships, I don't recall that question. Perhaps it was about Cuban operators rather than ships. I do not recall making any such statement as '...but sometimes you don't get paid'. That would certainly not be appropriate.

Lastly, the demand for shipboard operators was very high due to the Desert Storm operation in Iraq. People were recruited and the ranks swelled. At present there are few jobs available. This information comes from ROU and ARA, the two US Radio Officers' unions. The US Navy stopped mandatory Morse code training for operators some years back and to my knowledge has reinstated it at present. It has been optional during that period.

It is unfortunate that this article was originally published without my being able to review it. The errors mentioned here were not the only problem; the entire tone of the piece and the verbiage used were not in keeping with the presentation.

Thank you for your kind response to my concerns in this matter.

Rod B. Deakin NR7E
Cupertino, California

(MM regrets any embarrassment caused to Rod Deakin. The article in question was taken from another publication and was condensed and reprinted in good faith. The corrections, in fact, emphasise Rod's basic message – that commercial CW still lives! – Ed.)

Club Profile No. 8 – MEGS

continued from page 39

On Wednesday, at 8.00 p.m., GB2CW also broadcasts on 28.350MHz, using SSB/CW, with the first half hour devoted to Novice practice. For this transmission, feedback is invited on both 28.350 and 145.250MHz.

The transmissions described are, of course, intended for Central Scotland but may be heard over a wider area depending on radio conditions at the time. Details of other GB2CW transmissions throughout the British Isles can be obtained from the RSGB, Lambda House, Cranborne Road, Potters Bar, EN6 3JE.

Further Information

For further information about MEGS or the GB2CW broadcasts for Central Scotland, contact George M. Allan GM4HYF, 22 Tynwald Avenue, High Burnside, Rutherglen, Glasgow G73 4RN. Tel: 041-634 4567.

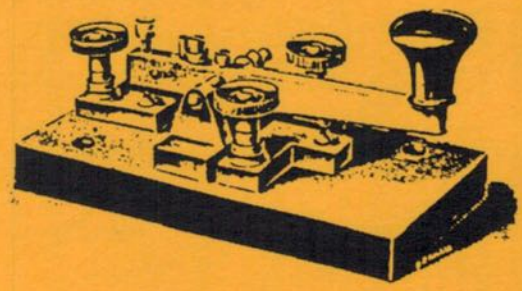
(Our thanks to GM4HYF for his assistance in preparing the above profile)

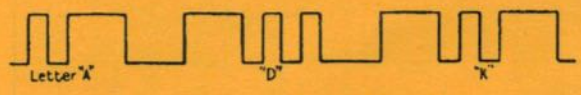
IN THE NEXT ISSUE:

Key W/T 8 amp Survey Results
Who Was at the Key?

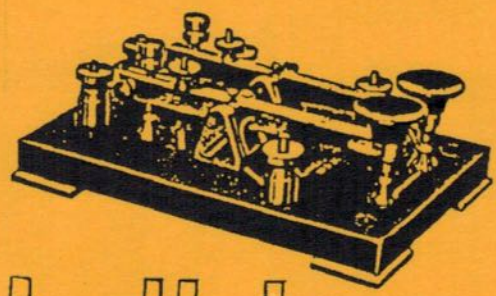
PORTHCURNO TELEGRAPH MUSEUM.

A.





B.



A. MORSE KEY & CODE B. CABLE KEY & CODE

Morse QSLs

A series of reproductions of QSL cards with a Morse theme