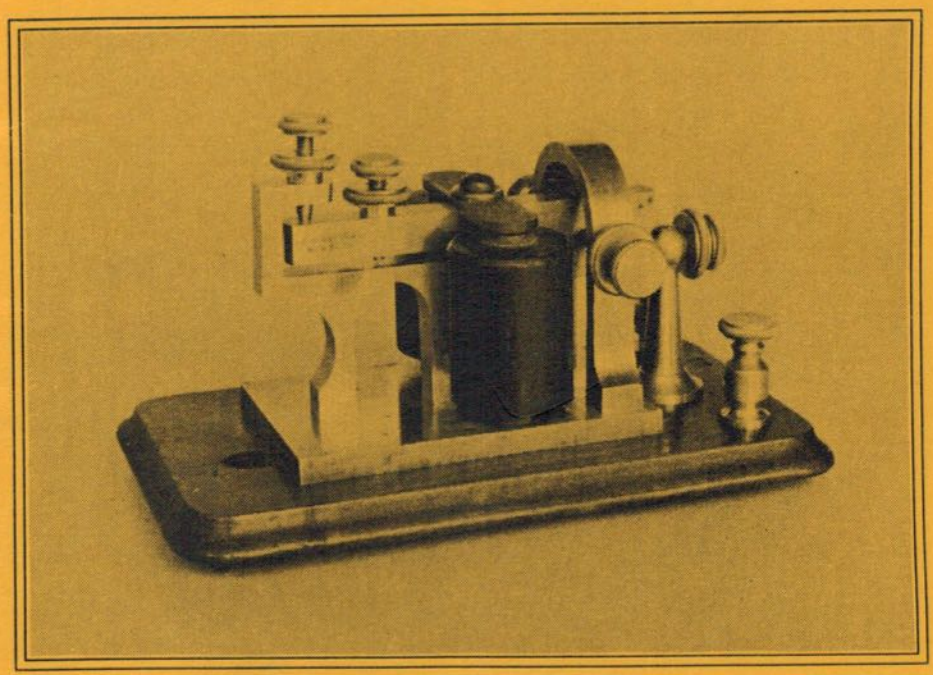
Number 26 – January 1993

Morsum Magnificat



The Morse Magazine

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Morsum Magnificat

the Morse Magazine

MORSUM MAGNIFICAT was first published in Holland, in 1983, by the late Rinus Hellemons PA0BFN. Now published 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
A restored J.H. Bunnell 20 ohm sounder, circa 1871.
Restoration and photograph by Phillip Cleveland WT6P

Comment

DID OUR CHRISTMAS COMPETITION, announced in MM25 (p.23), really cause you such problems? We didn't expect to be inundated with entries, but we did expect some valiant (and valid) attempts. So far we've not had a single one that complies in all respects with the simple rules laid down. You've got a couple of months left to get your entries in, so what about it?

In order to remove the confusion (not least my own!) over the cover-dates which we put on *MM*, as from this issue the date shown will be the month in which the magazine is published. Incidentally, it gets over the problem of producing a Christmas issue at the end of January!

Following the introduction of the Single European Market on 1 January 1993, the sale and purchase of goods between member countries is subject to VAT. For sales by post, etc., to individuals and small companies who are not VAT-registered, the seller must charge VAT on the same basis as if the customer was in his own country. Luckily, magazines and books are presently zero-rated in the UK, although there are continued rumblings about the possibility of a change in this arrangement. However, magazine binders, like most other goods, are subject to VAT at 17½ per cent. This has the unfortunate effect of adding almost a Pound to prices for *MM* binders going to EC-member countries other than the UK (see p.17). And they tell us that the Single European Market is intended to encourage trade…

Had we known in advance, we would have forewarned our European customers and encouraged them to order their binders early. Unfortunately, details of how to operate the new rules were not published until after January had begun!

Geoff Arnold

G3GSR

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News

Dorset Morse Festival Weekend

MORSE ENTHUSIASTS old and new will be welcome at the first Dorset Morse Festival Weekend, to be held at Clayesmore School, Iwerne Minster, on the A350 between Blandford and Shaftesbury, on Saturday and Sunday, March 27/28.

There will be trade stands (including one manned by your favourite Morse magazine!), RSGB Morse tests and lectures, and you will also have the chance to meet other CW enthusiasts!

The Morse Festival, hosted by the school radio society G0RSC, runs from 10am on the Saturday to midday on the Sunday, so you can go for the day or stay for the weekend. Overnight accommodation and food will be available at the school, at an inclusive reasonable price.

Full details are included in the Morse Festival Information Pack, available by sending an A4 stamped addressed envelope to 'Dorset Morse Festival Weekend', Clayesmore School, Iwerne Minster, Blandford, Dorset DT11 8PH.

Future HF Band Planning

AT THE IARU Region 2 Conference held in Curaçao from August 31 to September 4, 1992, Hans Berg DJ6TJ, Chairman, IARU Region 1 HF Committee, presented proposals for a world-wide HF band plan which he hoped could be agreed by all three IARU Regions.

This would divide the amateur bands into sections according to bandwidth of signal and not by mode as at present, with each section allocated a fixed percentage of each band. Signals up to 0.5kHz wide would be allocated 20 per cent of a band; up to 1.5kHz 25 per cent; and more than 1.5kHz 55 per cent.

This proposal had previously been drawn to the attention of all European CW Association member-clubs by AGCW-DL (German CW Activity Group) which pointed out that, if implemented, the proposal would result in smaller sections of each band being specifically available for amateur CW than at present.

It is understood that the Region 2 Conference took no action in response to these proposals, and Hans Berg DJ6TJ has advised *MM* that he does not propose to pursue the matter at the Region 1 Conference in September 1993.

(Information from John Allaway G3FKM, Secretary, IARU Region 1, and Hans Berg DJ6TJ, Chairman, IARU Region 1 HF Committee.)

Nottingham Morse Seminar

PLANNING CONTINUES for the 1993 Morse Seminar to be held at Sherwood Community Centre, Mansfield Road, Nottingham on Saturday May 15. There will be two 1-hour presentations, one in the morning and one in the afternoon. The afternoon talk, entitled 'Early Morse', will be given by Tony Smith G4FAI, Consultant Editor of *Morsum Magnificat*.

Additionally, there will be a series of mini-talks of about 20 minutes on a

variety of Morse related subjects, with topics of interest for the beginner and the more proficient.

There will be displays of Morse keys and equipment, and of very early radio equipment. There will also be a 'Bring and Show' table where visitors can bring one or two items of interest to show to others, or to find out what they are! QRP kits by Lake Electronics will be available, and there will be a FISTS CW Club table.

Amongst various activities, a selection of currently available keys will be available to try out; various computer CW programs will show how good your Morse really is and will test your speed. Visitors are invited to bring their own keys and to use the Nottingham Club call of G6CW on-the-air.

For those requiring it, a pre-arranged mini-bus service can be provided to and from Nottingham Midland Station. Light refreshments will be available together with the opportunity to 'chat about Morse' with like-minded enthusiasts, and there will be a talk-in station on S22.

The organiser, Ron Wilson G4NZU, will welcome further ideas and suggestions. There is already a programme awaiting finalisation, but suggestions (and/or volunteers!) for additional talks or activities to expand the format of the seminar will be particularly welcome.

Please write or telephone Ron at 9 Greythorn Drive, West Bridgford, Nottingham NG2 7GG. Tel: (0602) 231900 if you can help. The full programme for this enjoyable and interesting event will be published in the next issue of *MM*, but make a note of the date in your diaries now!

CW Increasing!

A GREAT DEAL OF TIME and effort went into adjudicating this year's 43 events. Interestingly, the number of UK entrants in CW contests is increasing whilst SSB contests are struggling.

(Comment on HF contests in the Annual Report of the Radio Society of Great Britain, 1991–1992.)

New Products

SANELLI TECHNOLOGY has recently introduced two new Morse products. One is a code practice oscillator, the OSC100, for individual or group practice sessions. This is claimed to output an extremely pure CW tone to an external speaker. It features separate volume and tone controls, jacks for external 9-volt adapter, key, and speaker, and will also operate from an internal 9-volt battery. Price is US$39.95 plus $5.00 shipping/handling USA or $12.00 non-USA.

The second product is LEARN CODE PROGRAM™ with RIXTIX ANALYZER™ which allows an IBM-compatible computer to display code sent by hand using the shift key. It also sends random characters at speeds from 1 to 35 wpm overall speed and independent 1–35 wpm character speed, with adjustable dah length. The RIXTIX ANALYZER™ analyses dah lengths, time between elements, and time between characters, and then displays character and overall speed. It also imitates the operator at the other end to show if your hand-keyed code is readable. Price is US$9.95 plus s/h USA $4.00 or $9.00 non-USA. Specify 3.5in or 5.25in.

For further details contact Sanelli Technology, PO Box 416, Kiowa Co 80117-0416, USA. Tel: (303) 621-2534.

Morse Programs Now Available to All

A NUMBER OF *MM* readers have now obtained copies of Gary Bold's Morse programs as described and offered in MM25, p.6. These programs continue to be available free of charge and the offer is now extended to non-readers of *MM*, to anyone who wishes to learn Morse code or improve on their existing performance. Please tell your friends with IBM compatible computers about this offer.

The program for absolute beginners, TEACH, is based on the innovative computerised teaching system described by WA9VRU in *QST*, May 1977, which, in Gary Bold's view, combines two 'beautiful, simple, and obvious ideas'. One is the introduction of characters in postponed discrimination order, and the other is that the computer should adapt to the human.

'Postponed discrimination order' means the introduction of the longest characters first, as opposed to the more usual start with E, I, T, etc., with the idea of reinforcing the need to listen to the whole character before deciding what it is. In plain text the learner gets little chance to practice the more uncommon letters, but with postponed discrimination by the time E is reached the Qs, Zs, Xs, etc., will have been heard so often that they will not cause the usual problems!

Gary says that WA9VRU's is the only adaptive code teaching system he has seen (he would like to know of others if they exist). 'Adaptive' here means adjusting the teaching to match the learning ability of the student.

His TEACH version of this system sends an audible character at about 12 wpm and waits for a response. If you know what it is you press the appropriate key on the keyboard. If you don't know, and do nothing, the program waits a reasonable time, prints the letter on the screen, and sends it again.

If the wrong key is pressed the character is sent again without comment. The program starts with Qs and goes on to Ys, introducing more as the learner begins to recognise the characters correctly. It continuously averages past response times and waits for a response for twice as long as this average.

It keeps track of the student's error rate on each character and the average error over all characters in use, and all these error rates have to be acceptably low before a new character is introduced. Characters are sent with a 'non-uniform random probability', i.e., difficult characters, as assessed by the individual's response rate, are sent with a higher probability than those more easily recognised. At the end of a session the program provides information on how the student is progressing.

All seven programs described in MM25, including TEACH, can be obtained free of charge by sending a formatted 3.5in disk (DD or HD), together with a stamped addressed envelope for its return, to Tony Smith, 1 Tash Place, London, N11 1PA.

Well Done Keith!

THE FIRST EVER UK Class 'A' Novice, has now become the first UK Novice to receive the G-QRP Club's Class 'A' CW Novice Award.

He is 12-year-old Keith Goodwin 2M0ACT, who used 3 watts to make his first 50 CW contacts to qualify for the award. These contacts include seven with

USA/Canada, two with Indonesia, and involve twelve separate countries in all.

His father Stuart GM0CAG, reports that Keith is getting a great thrill from the hobby and that many of his contacts have helped him relate to his school geography and French lessons.

Dave Gosling G0NEZ, the G-QRP Novice Services Manager, reports that there are a number of other Club Novices also achieving high standards of operating ability and asks all CW operators to look out for and encourage Novices when they hear them.

Novice callsigns have the prefix 2 followed by the letter E, W, M, J, U, or I designating their regional locations. 2M0ACT, for example, is located in Scotland.

The G-QRP Club's CW Novice Award is intended to encourage newcomers to CW operating. It is open to any amateur (including non-club members) who, during the first twelve months of holding a licence, contacts 50 different stations while using CW.

The Class 'A' award is for contacts using up to 5 watts output and for the Class 'B' award any power may be used. Further details are available from Gus Taylor G8PG, 37 Pickerill Road, Greasby, Merseyside, L49 3ND.

Baggage Telegraphers

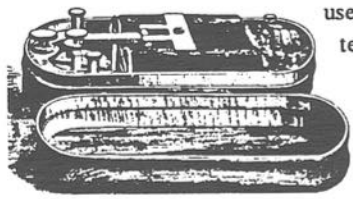
by Don deNeuf WA1SPM (SK)

In the early days of railroading in the West the likelihood of derailments, breakdowns, 'Indian interference', and the like resulted in each train carrying a telegrapher as a member of the crew.

He was the liaison between the conductor of the train and the dispatchers, transmitting notification of delays, calls for assistance, etc., when required. Frequently he doubled as the baggage man.

He carried with him a portable key and sounder combination with sufficient flexible wire to reach the top of the telegraph poles and its Morse lines which always ran alongside the tracks. It was an inviolable order that no train could leave a terminal without a telegrapher.

The telephone had not yet come into use. Men with telegraphic skills were not plentiful. In some instances trains were held for several hours until one could be found. On some lines the train telegrapher's Morse sets were very small – pocket sized – often in a carrying case. *MM*



STOP PRESS!

US Coast Guard Ceasing All CW

United States Notices to Mariners, dated 5 January 1993, announce as follows:

'Effective 1 August 1993, all United States Coast Guard communications stations and cutters will discontinue watch-keeping on the distress frequency 500kHz, and will cease all Morse code services in the medium frequency radio telegraphy band.'

Information from Bruce Morris GW4XXF. Bruce will be making every effort to obtain recordings of the last CW transmissions from these stations to add to his historic compilation cassette of farewell signals 500kHz – the End is Nigh!, *reported in MM18 p.12.*

A Code-free Licence?

by Tony Smith G4FAI

THE INTERNATIONAL Amateur Radio Union Region 1 High Frequency Committee, at its meeting in Vienna in April 1992, discussed whether, from the viewpoint, interest and future of the amateur radio service, the IARU and its member societies would want to maintain the policy of supporting the Morse code examination as essential for obtaining an amateur licence for the bands below 30MHz. The following recommendations were, therefore, made to the Region 1 Executive Council:

1.1 That IARU Region 1 societies should investigate the future use of Morse code as far as licensing examination requirements for access to the HF bands are concerned.

1.2 That the IARU Administrative Council be asked to investigate the situation world-wide.

At its meeting in Budapest, 1–3 May 1992, the Region 1 Executive Committee minuted that 'The question of the Morse code examination was discussed and it was agreed that the EC would forward a request to the Secretary of the International Amateur Radio Union for this matter to be placed on the agenda of the next Administrative Council (AC) meeting'.

Further Consideration in September

The draft minutes of the AC meeting held at Curaçao on 5–7 September 1992, read as follows:

'13.1) Morse code examination requirement for operation below 30MHz. The Administrative Council reviewed the ITU Radio Regulations which require that amateurs possess a knowledge of Morse code to operate below 30MHz, and its previous actions relating to this subject. It was determined that no further action is needed at this time.'

However, that is not the end of the matter. *MM* has been advised by Hans Berg DJ6TJ, Chairman of IARU Region 1 HF Committee, that 'the whole matter has to be reconsidered by the next Region 1 Conference' which will be held in Belgium, 19–25 September 1993.

RSGB Consultation Exercise

While the above discussions have been taking place at international level, the Radio Society of Great Britain's HF Committee has also been considering the question of access to the HF amateur bands without the need for a Morse code qualification.

While recognising that the international regulations at present require radio amateurs operating below 30MHz to demonstrate their proficiency at sending and receiving Morse code, 'though the speed and nature of any test is not specified', the HF Committee has invited input from any UK amateur or SWL on whether they are for or against the idea of a code-free HF licence.

Views, opinions and comments from both members and non-members of the

Society are welcome and should be sent to the RSGB not later than 8 March 1993 (see below for address).

Time to Re-examine Pros and Cons

MM asked Martin Atherton G3ZAY, RSGB HF Manager, if the HF Committee's request for input from amateur operators and SWLs was specifically related to the proposed consideration of Morse examination requirements at the forthcoming IARU Region 1 Conference mentioned by DJ6TJ above.

G3ZAY replied as follows: 'I can confirm that the current discussions/ consultations are not specifically related to the forthcoming Region 1 Conference although they will obviously be useful in deciding what our position should be on the papers that will be submitted by others (RSGB is not submitting any on this subject).

'The topic has been raised by numerous correspondents over the last few years and was aired at the recent RSGB strategy conference where it was decided that the time had come to re-examine the pros and cons.

'The request for comment is not restricted to RSGB members. If we get a large response it might be worth looking for any divergence of views between members and non-members, and this in turn might influence our final position if the arguments seem closely balanced.'

Rules Can be Changed

Even though there is at present an international requirement for a Morse test for HF operation, it must be recognised that formal support by the IARU and its member societies for the abolition of the test could lead to proposals being put, via national administrations, to the ITU for the regulations to be changed.

If the RSGB decides to support a no-code HF licence it could be a persuasive influence in IARU discussions on such a proposal. It is most important, therefore, if UK CW operators or SWLs have any comments to make they should write now while they have an opportunity to influence RSGB policy on this matter.

Write Now!

Member or non-member, write to the RSGB to express your views before it is too late! Write to **The HF Committee, c/o RSGB HQ, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE, marking your envelope 'Code Free Licence' in the bottom left-hand corner, not later than 8 March 1993.** Tell them if you are for or against the idea of a code-free HF licence (and why!), and indicate if you are a member or non-member of the Society. If you wait till March 8 you may forget to write. Why not do it now while you have it in mind!

(Information from IARU Region 1 News*; John Allaway G3FKM, Secretary, IARU Region 1; Hans Berg DJ6TJ, Chairman, IARU Region 1 HF Committee;* Radio Communication, *journal of the RSGB; and Martin Atherton G3ZAY, RSGB HF Manager.)*

Views noted by MM *recently against a code-free licence include:*

'The next question could be "do you want an RAE-free licence?"';

'A code-free licence would lead to a break-down of band plans and loss of CW frequencies';

'Construction of simple QRP CW

equipment is one of the last bastions of amateur home-construction and a code-free licence could eventually lead to the end of that activity';

'Simple CW equipment also provides valuable facilities and encouragement for Novices which should not be lost';

'The RSGB should not ignore the interests of the large number of CW operators who are still the second largest group of radio amateurs';

'Morse may be old-fashioned in its origins but there is a great deal of up-to-date sophisticated equipment available for those who wish to use it, making CW a modern effective communication medium';

'CW meets the needs of the widest possible range of amateurs – from the absolute beginner to the highly skilled DXer – far more than any other mode';

'Success in the CW test encourages newcomers to the mode – if the test is abolished there will be little incentive for anyone to learn Morse';

'CW is too valuable a mode to be lost – it is the easiest and cheapest way to get on the air, it provides the best DX in poor conditions, it takes less bandwidth than any other mode, it helps overcome language differences, it is used for a number of experimental and specialist purposes – it is in the interest of amateur radio itself to support the retention of the Morse test to help keep CW alive'.

'If the UK had a no-code licence by "bending the rules", as is hinted in the RSGB statement, reciprocal licensing arrangements with other countries retaining a Morse requirement could be lost'.

Perhaps readers might like to make some of these points to the RSGB – if they agree with them of course! – Ed.)

Is it 'Vic-Ac(k)' or 'Sugar-King'?

by Geoff Arnold G3GSR

Although it's not as often used in amateur Morse communications as it is (or was?) in professional traffic handling, the signal · · · – · – meaning 'End of Work' is nevertheless widely known.

When I was training to become a sea-going radio officer, we were taught that · · · – · – was $\overline{VA}$. This is how it appears in many reference books on Morse procedures, but in many others it is interpreted as $\overline{SK}$. The Morse signals for these alternative versions are of course exactly the same, but I wonder why there are two forms. Did one originate in a particular telegraph service?

In similar vein, does anyone know the origins of the two versions of the old phonetic-spelling interpretation of the letter 'A'. Most references, including army instruction books from the turn of the century, say that it was 'Ack', but I have found that a few quote 'Ac' instead.

Another question occurred to me recently – I apologise for the somewhat morbid overtones. My query concerns the phrase 'Silent Key', used in the amateur fraternity when talking about an operator who has passed away. Undoubtedly a most appropriate and descriptive phrase, but was it intentional, or mere coincidence, that the abbreviation for Silent Key is 'SK'. After all, there can be no more final 'End of Work' than death. *MM*

Commercial CW at KFS

by Rod Deakin NR7E

FOR THE LAST TWO YEARS I have worked part-time for KFS, a coastal telegraph station *(located near San Francisco. – Ed.)*. I had long held a commercial licence but hadn't ever had an opportunity to use it. Then I saw an ad in *QST*, called, and a week later was working at KFS.

It's been educational, and I've enjoyed it. Commercial CW, contrary to what I read on bulletin boards, still lives. There are 50 000 registered vessels out there. 15 000 use satellite as their primary form of communication. The rest use SITOR or CW. Foreign ships' officers are not paid as well as US officers, so stay with CW to avoid the capital expense of satellite.

Commercial CW is full duplex. If you don't know how the bands are organised you won't be able to hear both sides of a conversation.

Privately Owned

Station KFS has changed hands many times since it started around 1910. Nowadays it's privately owned, having been purchased primarily for the property, but allowed to stay on the air because it still makes money.

The original transmitter was spark, of course, but there have been many changes in all the years since. The current receivers are Watkins Johnson 718s that tune 5kHz to 30MHz continuously. There are ten transmitters on HF – doubles on 22, 16, 12, and 8MHz and single transmitters on 4 and 6.

KFS is one of three commercial stations still operating on the West Coast. KPH in Marin county and KOB in Arlington, Washington, used to be sister stations to KFS. KOB was bought by one of its operators who set it up in his back yard *(must be some back yard! – Ed.)* and is doing quite well.

Traffic

There are several different message types: position reports, requests for supplies, etc. There are messages to the Coast Guard that are like filing a flight plan. We send weather reports to ships, handle medical emergency messages, and general traffic.

We use three modes: satellite for telex and FAX; SITOR, which is similar to AMTOR; and CW.

Commercial stations always use separate receiver and transmitter sites to allow full duplex operation.

Calling and Working Bands

Initial contacts are always made in the calling bands which are channelised in half-kHz steps. Typically KFS has five receivers up. One is a scanner – a Kenwood R5000.

After contact is established we use the working bands. A ship tells a shore station where to listen when he QSYs.

A switching system allows any operating position to use any available antenna.

The shore station CQs continuously – today using a computer. When an operator hears a ship calling, he touches his key to stop the CQ and call the ship. The 'wheel' also runs announcements of traffic lists, weather broadcasts, etc.

Shipboard Operators

Ship operators were the shock of my life. Some of their fists are so bad we've had three operators copy the message, compare notes, then ask the ship for confirmation. To a ship's Radio Officer, CW is work, not fun.

You can always tell who's a ham and who's not. Many true 'RO' types use hand keys, even today. When a ship is rolling, its hard to use a bug. A lot of side-swipers are still in use. Speeds range from 5 wpm up, with probably no more than a half percent going 30 wpm.

The trick is to copy a huge variation in sending styles and do it for 8 hours without going nuts. A hundred messages makes a heavy shift: you normally run about half that. Messages vary from 5 to 600 words (the longest I've ever copied).

Money's Worth

Sea Bells, callsign ELC7, hauls logs from Longview, Washington, to China and its operator had a reputation for being uncopyable. Finding myself in Longview on a trip, I decided to see what ships were in, and there was the *Sea Bells*!

I went aboard and met her radio operator. He's a super-nice guy and what he showed me in his shack explained why his fist was so bad. He had a side-swiper made with a pair of micro-switches and a crazy mechanical arrangement built to keep him from touching the 100 volts on the keying line. Its 'feel' was like a lead brick sliding over a concrete slab!

At my suggestion, the KFS management bought him a keyer and I sent it up to him. His fist improved a great deal and management got their money's worth many times over in operator time saved at KFS.

Alaska Disaster

A heavily loaded container ship in the Gulf of Alaska broke in half about eighteen months ago. All the ship's communication systems were out, but a crew member had a battery-powered 50-watt CW rig which he managed to get on the air to call for help.

Instances like this are why CW in the maritime service will never die, though it may cease to be the primary means of communication. The US Coast Guard clearly agrees. *(But see page 5. – Ed.)*

Questions and Answers

The following is a selection from the many questions answered by NR7E at the conclusion of his talk:

Q. Would it be more costly to use teletype rather than SITOR?

A. Data integrity isn't there. SITOR is double-checked: for the number of zeros and ones in each character and in groups of three characters – at 100 baud. Under adverse conditions, it gets hits and retries so much a good CW operator can outrun it.

Q. How do you know what traffic needs to be sent?

A. The 'carousel' has all the hard copy outbound messages – with callsigns, and

different paper colours for each day. After seven days without success you send the message back to its originator. We transmit a traffic list each hour. When a ship checks in you're obligated to send his traffic first. Soon they will do away with the carousel and just use a window on a PC. You'll be able to pull the message up on a screen and send it by hand if you wish, or automatically.

Q. Why not always machine-send the messages?

A. That takes all the fun out of it. Work a lot of packet?

Q. What is propagation like?

A. Its different from working DX on the amateur bands. You never know the location of a ship. So you just try different antennas and use the one that works the best.

Q. Why do you work stations world-wide?

A. Ships call us and we do whatever they want. Cost is a factor. Sending a telex directly to Seattle from China costs more than sending it via KFS.

Q. If a new ship calls up, what happens?

A. We set him up as a new customer.

Q. You trust him to pay?

A. No, but four letters at the end of his preamble tell us where to send the bill.

Q. How can he find out what the charges will be?

A. By sending QSJ? – 'How much is this message going to cost me?' It's $2.43 per minute on SITOR.

Q. Do ships specify what mode to use?

A. Yes, it's the ship's choice.

Q. Do you work Cuban ships?

A. Yes. But sometimes you don't get paid.

Q. Do you bring your own bug to the job?

A. Yes, I do.

Q. Can you describe emergencies?

A. The second week I was there, I copied a message about an officer who had just killed someone in a fight. The dead guy was in a refrigeration compartment. They wanted to know whether they should bury him at sea, head for shore, or keep the body in refrigeration for the rest of the trip.

I once got a message about a guy who had become upset and tried to sabotage his ship which was carrying naphtha. He had wrecked one of the main generators. They put him off the ship in Miami and later repatriated him to Manila.

I've copied messages at least six times with people lost overboard.

One message was from the captain of a Greek ship waiting at a lock on the Panama Canal. The message was to a young man's wife, telling her he was dead, probably murdered. His body had been found floating in a river.

Q. Is there much demand for shipboard operators today?

A. Yes.

Q. Why?

A. The unions said satellites would mean the end of radio operators, so many operators retired early or found other work. The career is questionable; no one knows how long the need for CW operators will last.

Also, responsibilities have expanded. A radio operator today must maintain the ship's computers and other electronics. The military has stopped Morse training so that source has dried up.

(This article is a condensed version of a presentation made at the August 1992 meeting of the Northern California DX Club by Rod Deakin NR7E, reprinted from DXer, *journal of the Northern California DX Club, September 1992.*

Who Buzzed First?

by Tony Smith

AT AN EARLY STAGE in the history of Morse telegraphy, operators found that they could make sense of the clicks of their self-recording receiving instruments. Following this, the sounder evolved as a purpose-built instrument for aural decoding, a major step in the development of manual telegraphy.

Sounders remained as the basic receiving instrument for manual Morse on landlines in Britain until the early 1930s, when the Post Office phased the Morse system out, and the Army, faced with the prospect of losing a valuable reserve pool of Post Office operators, opted for greater use of the tone signalling Fullerphone. In North America sounders remained in use until around the 1960s, and the last commercial Morse via landline and sounder in Australia was sent in 1963.

Radio operators today, familiar with tone reception of Morse code, may wonder why landline telegraphy continued to receive code by 'clicks' and did not convert to tone when suitable systems eventually became available. The simple answer seems to be that by the time satisfactory tone systems had evolved the sounder had become an established and reliable signalling instrument, in terms of what was required from it, and it was generally believed that reading tone signals was more difficult than reading sounder signals.

Change would also have involved large-scale retraining of staff and the expensive installation of new equipment – at a time when, faced with faster alternative landline systems, plus ever expanding and improving wireless services, the writing was already on the wall for landline Morse.

Despite the dominance of the sounder in its day, however, tone signalling did have its champions, and it would be interesting to know just when the first tone signals came off the wire; or indeed when they were first used in wireless, since the earliest radio systems used conventional landline instruments for receiving.

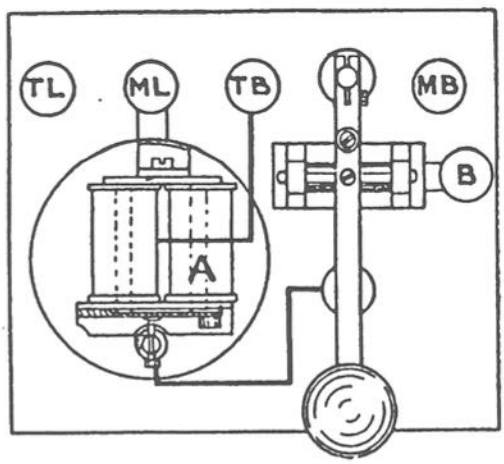
Military Buzzers

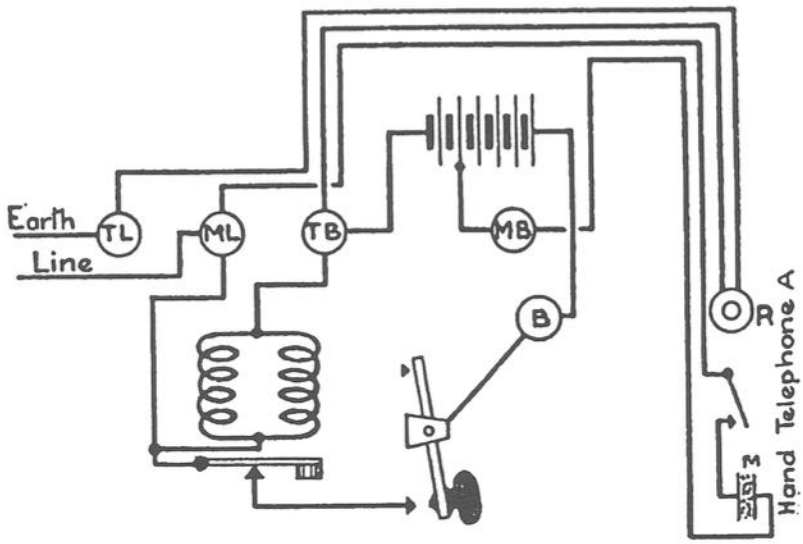
In May 1878 the British army was considering the possibility that the telephone might be used as a sounder to receive Morse signals when the line circuit was too bad for the ordinary sounder to work, and it appears that this idea was actually used in the South African War of 1879–1880.

The 'vibrating sounder', which was extensively used by the British Army, was invented by Lieut. Philip Cardew, Royal Engineers, an instructor in telegraphy at the School of Military Engineering at Chatham, in 1881, and this may have been the first purpose-built Morse buzzer signalling instrument. Preece and Sivewright, in *Telegraphy*, new edition 1905, commented that 'where other instruments fail from weak signals

Fig. 1 - 'Transmitter, Vibrating' (right) and 'Connections of Transmitter, Vibrating' (below)

From Instruction in Army Telegraphy and Telephony, *Vol. 1, HMSO, 1908*





through faults of insulation on the lines, the vibrating sounder has proved eminently successful.

'It has been worked through sixteen miles of bare wire laid on the ground in England, and through over twenty-three miles in Egypt, even when the conductor was in contact with stay wires and railway fences. It was used in the Egyptian and South African campaigns, as well as during the frontier expeditions in India, and on the badly-insulated jungle lines of that country, Ceylon, and West Africa.'

The 1908 edition of *Instruction in Army Telegraphy and Telephony*, Vol. 1, also describes the vibrator system (**Fig. 1**), but is more cautious in assessing its capabilities. 'In the vibrating system, an ordinary telephone receiver is used as the receiving instrument, and the signals are given by

long or short durations of "buzzes" in the receiver, separated by periods of silence.

'To produce these signals in the receiver, a rapidly vibrating or intermittent current is required, the "period" of the vibrations being about 150 to 500 a second, viz., that of sound-waves. If this period is kept steady, a more or less musical note, having a definite pitch, is produced in the receiver.

'The advantages of this system are:

(i) The telephone receiver is extremely sensitive, and consequently a very small current is required.

(ii) Vibratory currents will pass through condensers, and consequently a circuit can be divided into two parts, so that ordinary *(i.e., sounder – Ed.)* Morse currents will pass through one path only, and the vibrating currents through the other. This enables the line to be used for two independent telegraph circuits at the same time.

(iii) It is easy to produce very high momentary EMFs by means of induction coils or similar devices, and this, combined with (i), enables this system to be used on lines of very high resistance, and comparatively poor insulation, without the very large battery power that would otherwise be required.

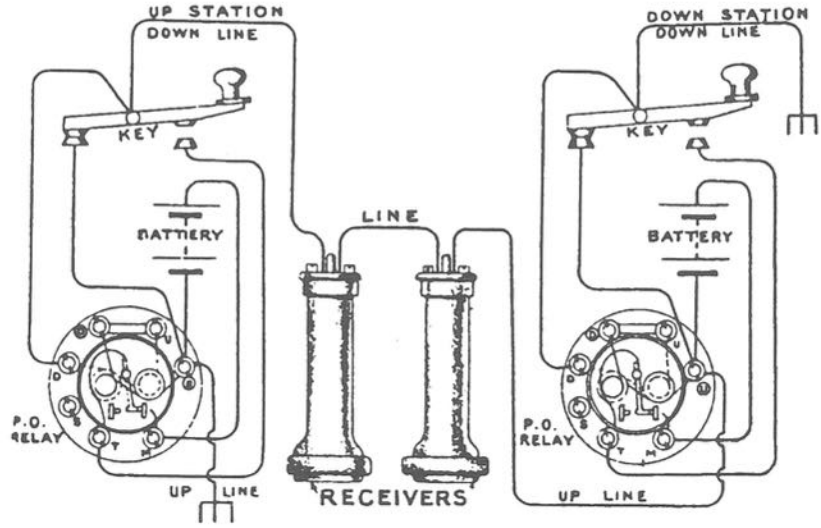


Fig. 2 - Relays used as a buzzer

From Admiralty Electrical Manual, *c.1910*

(iv) The telephone receiver requires no adjustment, and is always ready to receive either strong or weak signals.

(v) The instruments required are light, and the battery power small, consequently the apparatus is very portable.

'The disadvantages of the system are due to the same peculiarities of the system, and are:

(i) The vibrating currents induce similar currents in all neighbouring wires, and these produce buzzes in any telephone receiver connected to them. Thus several vibrator circuits cannot be run side by side

for any distance, or even be connected to the same earth, unless the latter be of extremely low resistance...

(ii) Every line has a certain capacity between itself and earth, and this capacity increases with the length of line. Vibrating currents will pass through such a capacity, and leak to earth on a long line, even if it is well insulated. The vibrating system is therefore not suited to working on long lines. (About 40 miles is found to be the limit for field cable lines).

(iii) It is more tiring to the operators than ordinary sounder circuits, and the speed of operating is slower.

'... A small addition to the apparatus enables it to be used as a telephone; this is very useful for what may be called "tactical" lines, and also enables it to be used for communication with a lineman equipped with a telephone portable D, without interrupting the Morse working on the line. The system is also used for "calling" in telephone work, where it is desirable to avoid the weight due to a generator and bell.'

A similar system is described in the *Admiralty Electrical Manual*, c.1910, and in other Royal Navy manuals around the same time, which used two Post Office telegraph relays plus telephone receivers to achieve the same performance (**Fig. 2**). The relay tongues were specially adjusted to make them vibrate when the sending key was depressed, and the same advantages and disadvantages mentioned in the Army manual were listed.

Early Patents

In 1887, Clement Adler, a Frenchman, took out a British patent (No. 17 528) for 'A Method and Apparatus for Phonic Reception of Telegraphed Communications', which used DC on the line, passing through a 'rapidly vibrating tongue' at the receiving end to convert the DC to an audible signal. This device used telephone receivers, one to each ear, to receive reversed polarity signals (dots positive, dashes negative) with dots heard as a signal in one ear and dashes in the other; alternatively, the system could provide signals of high and low pitch to enable the dots and dashes to be distinguished by their sound. Obviously derived from Brights Bells (see 'Railway Morse is Different', MM11), this is an interesting early use of double headphones, although it is not known if it was ever put to practical use.

In 1896 Alfred Charles Brown of Lewisham applied for a patent (No. 30 123) for 'Improvements in Means of Telegraphing through Long Uninsulated or Badly Insulated Submarine or other Submerged Cables, and in Maintaining Communication notwithstanding a Break in the Continuity of the conductor.'

This invention also used a locally powered mechanical or electromagnetic vibrator which converted conventional Morse signals to audible tones to be received through a telephone receiver. According to the inventor, speaking at a meeting of the IEE on 24 April 1919, this apparatus was used for working through broken submarine cables by the Direct United States Cable Company; also by the Europe and Azores Company and, he believed, by the Eastern Telegraph Company.

The Fullerphone

In 1915, Captain A.C. Fuller invented

the Fullerphone (see MM5), a field telegraph, employing DC to line and a 'chopper' at the receiving end, in the same way as in the inventions of Adler and Brown. Signals sent by this system did not affect other nearby lines, thus overcoming the major disadvantage of the earlier vibrating sounder telegraphs. It had other advantages too, which (by then

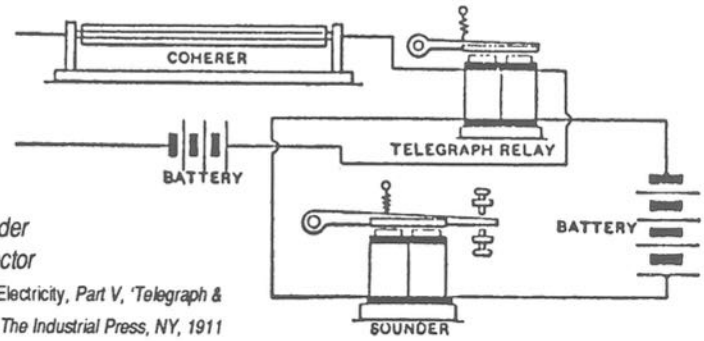


Fig. 3. Telegraph sounder used with coherer detector

From Principles of Electricity, *Part V, 'Telegraph & Telephone', The Industrial Press, NY, 1911*

Major) Fuller outlined in a paper read before the IEE 'The Fullerphone, and its application to Military and Civil Telegraphy', at the meeting referred to above. Fuller suggested that in some circumstances his invention offered advantages over other instruments used on existing civil lines, and that an investigation of its possibilities for use with submarine cables would also prove profitable. He had a rough reception, however, including Brown's claim to prior invention, and a summary of this interesting meeting will be included in a future issue of *MM*.

Wireless Reception

The earliest wireless receivers used coherer detectors which activated local circuits, enabling the signals received to be read from sounders, ink-writers or other conventional telegraph instruments (**Fig. 3**). According to R.F. Pocock & G.R.M. Garratt, in *The Origins of Maritime Radio*, HMSO 1972, the Russian physicist Alexander Popov (referred to in the USSR as 'the inventor of radio') while seeking to eliminate the relay from his receiver, in 1898, used a telephone receiver to obtain audible signals. Marconi, for his transatlantic tests of 1901, used a 'self-restoring coherer' as his detector in Newfoundland, a detector which operated by rectifying the radio-frequency signal to provide an audio signal. By the end of 1902 Marconi receivers being installed on ships incorporated a 'magnetic detector', the 'Maggie', which provided an audible note through headphones, and this apparatus remained in service for nearly twenty years.

On land, the British Post Office was apparently less progressive, as recorded by Lee de Forest in his autobiography, *Father of Radio*, pub. Wilcox & Follett Co, (USA) 1950. In 1903 he arrived in Britain to demonstrate his wireless system to the Post Office in competition with their own Lodge-Muirhead system. Stations were set up in Holyhead in Wales and at Howth, near Dublin, in Ireland. After an exchange at 35wpm between the two

stations, 'the officials gingerly donned the "cans", the first time they had ever received code through telephone receivers, and conversed slowly back and forth with no difficulty except that due to their inexperience in sound receiving by spark note. In sheer amazement they witnessed the ease and speed with which my two boys, eighty miles apart, slammed up and down the antenna transfer switch and got back their replies from their chattering American keys, far faster than the officials could write off their messages...

'The tardy reports of their tests and findings finally filtered through the cumbersome files of the British GPO – and there the matter rested and died. For Great Britain decided that any wireless system as simple and rapid as ours could not possibly be safe and reliable...

'However, it was not long before alternating-current generator transmitters, self-restoring detectors, and headphone receivers began to appear in certain British (and German) wireless stations! Our bleak labors had at least driven a nail into the coherer's coffin...'

Further Information?

This article has been in the nature of an exploratory 'first look' at the subject. If any readers can provide further information or references relating to the early use of buzzer or tone Morse, especially from countries outside Britain, please contact the author. Comments on the comparative merits of receiving Morse by sounder v. buzzer or tone by those with experience of the two systems will also be very welcome. ***MM***

Indo-China Memories

by Francis Marinesco F6EQC

BETWEEN 1948 AND 1955, I served as a radio operator during three tours of duty in the French Army in what was then Indo-China (now Vietnam).

The small radio stations that formed part of our fixed network were mostly equipped with the famous British 'B2' set, a small transmitter and receiver of about 20 watts output, designed specifically for secret wartime agents. It had a simple superhet receiver, with no filters, allied to a small transmitter with external crystal and plug-in coils, all powered from a battery and vibrator.

There was no break-in or audible sidetone, and only one crystal was issued to each operator. The transmitter could be made, at a stretch, to work as a frequency doubler although this was theoretically forbidden as only one frequency was permitted for each network.

One Drawback

This little unit worked pretty well although its main drawback was that on transmit one could hear a very loud and constant unkeyed note from the oscillator. There was no audible break in the tone, which excluded the use of double-contact keyers or 'sideswipers'. These were prohibited anyway as they were difficult to read, although initially operators used whatever they liked.

In many ways, therefore, it was just like a small 'home-brew' amateur radio station. These little sets worked for years, practically without maintenance, often handling dozens of long messages every day. Their long life, however, finally came to an end.

One-off Miracle

I remember once seeing a colleague arrive in Hanoi who, with his B2 under his arm, marched into his immediate superior's office, dumped the set on his desk and asked him if he could not see that the thing was encrusted and half-eaten away by damp? Whereupon a miracle occurred and my colleague returned to his rice-fields with a brand-new GRC9!

This sort of miracle only happened once. None of the other B2 operators had the nerve of my colleague and they had to live on with their moulding B2s as they gradually fell to bits.

There probably is some truth in the old saying, 'Help yourself and Heaven will help you'!

The Larger Stations

In general, work in the larger radio stations was organised in shifts which ran from 0800 to 1400 hours, 1400 to 2000 hours and overnight from 2000 to 0800 hours the following morning.

Rest periods were arranged according to the number of operators available, subject to the station remaining operational all the time. There were supposed to be four operators but often there were only

three, and some isolated stations had to manage with two.

This meant 12 hours on and 12 hours off, which was extremely demanding on the operators, ruining their sleep completely. I did this for about three months so I know what I am talking about. Even with four, the tremendous amount of traffic wrecked the nerves of the operators and it often happened that the morning following a night duty one could not get to sleep easily.

Extra Shift

The worst thing that could happen was the relief operator not showing up in the morning and one having to work an extra shift, making a total of 18 hours concentrated keying and listening.

Other rotas were tried out, for example splitting the night into two 6-hour shifts. This turned out to be even worse as one lost two nights of sleep over four days instead of one.

Eventually, most of us got used to the system, but not all. I had women operators taking drugs to keep awake but they were eventually sent home on medical grounds. I even had one who fell asleep while taking heavy traffic. As she didn't acknowledge receipt, hours of traffic were lost and one can imagine the enthusiasm of the sending operator who had to start all over again! However, overall the women were excellent operators.

Aggressive Operating

By contrast, the men became excited, tensed up to a state very close to aggression which improved the quality and speed of their sending through the night. However, the main problem was the same for all – lack of sleep. Only new operators were able to sleep for 12 hours after a night shift but this luxury did not last for long.

The North Americans have studied what constitutes a good operator and how to become one. They concluded that at least ten years of heavy traffic was needed to reach the required level of proficiency but I never qualified in that sense.

Working CW under our conditions produced an addictive effect. On the few occasions when traffic temporarily lightened, some operators began to read the high-speed automatic Morse messages transmitted by press agencies. Others, myself included, transmitted detective stories page by page to their correspondent stations!

Sharpened Skills

A friend of mine sometimes worked with two keys, one in each hand, changing from one to the other after each word. This addiction had its advantages. For example, I learned to use the Vibroplex, sharpening my skill so that I could switch from straight key to bug, one to the other without any problem.

But I could not do this nowadays. Apart from losing my skill over the years, I have been spoiled by using an electronic keyer ever since I became a radio amateur. This gadget was unknown in Indo-China, and even the type with valves (tubes) was a rare phenomenon at that time. The first one I ever saw, incidentally, was in Morocco, assembled by a local amateur, and he was the only operator in the country possessing such a sophisticated piece of apparatus!

Age is the Cure!

Anyway, about that CW-addiction, if it's any comfort... it does die out as you approach old age!

(F6EQC was in the French Army from 1947 to 1959, serving in Germany, Indo-China and Morocco. He worked in various electronics companies until 1987 and is now retired. He became a radio amateur in 1976 and still enjoys CW on the amateur bands.

Thanks to Dominique Bourcart FE1OEB, Ian Clarke G0RTF and John Gilbert ON4AGJ, for assistance in translating F6EQC's notes).

MM

Feather Touch

by Ken Randall GD3RFH

IN MY ARTICLE on the Space-Matic 21B (MM25, p.8) I mentioned that I used a solid-state paddle with that keyer. I found this very good, and in use it didn't feel any different to using a mechanical paddle. The paddle in question was Data Engineering Inc.'s Electronic Feather Touch Key, dating from around 1972. The following description of the key and its features is taken from the instruction leaflet:

GENERAL: The solid state key has been designed to drive the most demanding electronic keyers by the mere touch of the fingers to its paddles. Transistor amplifier switches are provided for keying keyers with negative or positive grounds. Two identical circuits are provided (see next page), composing the solid-state key.

Each circuit consists of a high input impedance silicon monolithic integrated level detector amplifier. This amplifier is used to convert the mechanical touch of a finger to a suitable electrical signal for driving the output amplifiers. The output amplifier is used to directly drive the input circuitry of any electronic keyer using positive or negative voltage.

WEIGHTS have been added to the key to prevent 'walking' for those using heavy pressure. Additional weight, if required, can be added by using two 'heavy' C-cell batteries such as the Ever Ready Alkaline Energizers. When using external power, batteries can still be added for weight purposes only. When using batteries for this purpose they must be disconnected from the key circuitry. This can be accomplished by turning the ON-OFF switch to the OFF position.

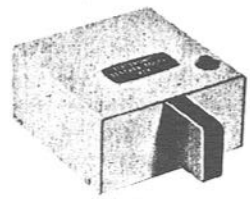
INTERNAL POWER is provided by the use of two C-cell batteries mounted in the holders provided inside each key. Battery voltage can be turned off by the use of the ON-OFF switch at the rear of the key.

EXTERNAL POWER of 3 to 4.5 volts can be applied to the red conductor in the unit's shielded cable. WARNING: Voltages greater than 4.5 volts will permanently damage the high impedance amplifiers.

RF IMMUNITY is provided by the use of a shielded cable. Additional suppression is provided by the use of by-pass capacitors on each cable conductor and the paddles. If required, by-pass capacitors can be added to the terminated end of each cable conductor.

ELECTRONIC FEATHER TOUCH KEY

The solid-state design detects the mere touch of your finger and eliminates such problems as contact bounce, proper adjustments and dirty contacts. Operates with all keyers. Weighted. **$22.95, $25.95** (with SPDT Switch Option)



1972 advertisement for the Feather Touch Key

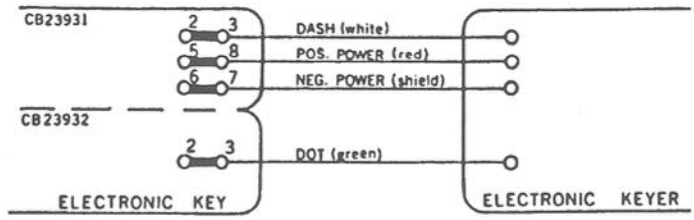


Fig. 1 - Connection for negative ground keyer

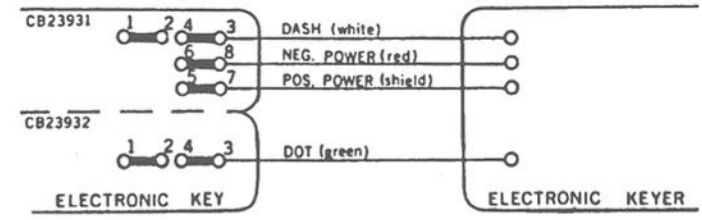


Fig. 2 - Connection for positive ground keyer

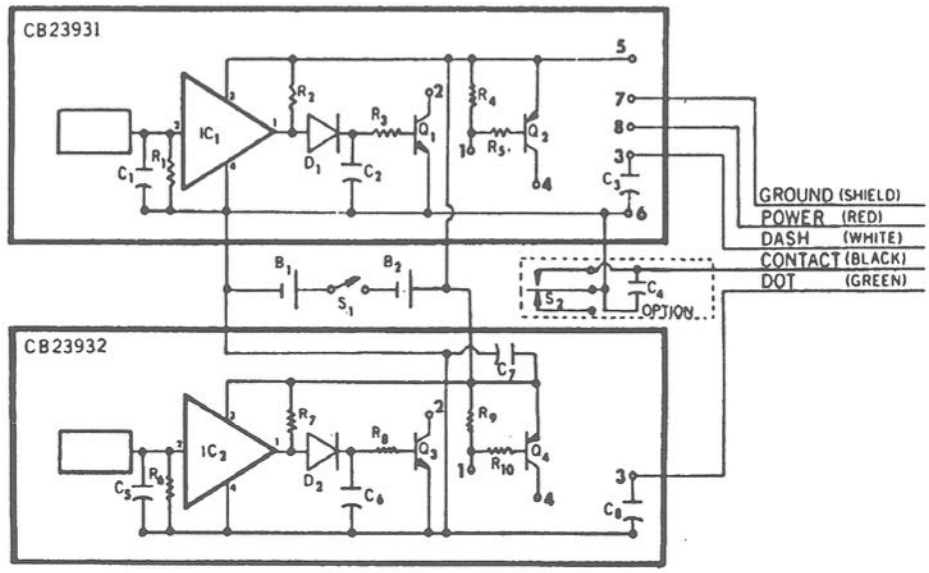


Fig. 3 - Schematic diagram of the Electronic Feather Touch Key

THE OPTION available with the key provides a single-pole, double-throw push-button switch for external control purposes, such as a tune switch. The open side of the switch is connected to the black conductor in the shielded cable. The wiper of the SPDT switch is grounded.

KEYER CONNECTION: As shown above, connecting the key to the keyer is accomplished by connecting the output of the key to the input terminals of the keyer. Straps are provided on each circuit board to allow keying of both negative or positive ground keyers. **Fig. 1** shows the straps

necessary for keying negative ground keyers. **Fig. 2** shows the straps necessary for keying positive ground keyers. The keys are strapped for negative ground keyers at our plant. If you have a positive ground keyer such as the Digi-Key or HA-1, etc., the straps must be changed to those shown in Fig. 2. When using internal batteries the red conductor in the cable is not connected to the keyer.

OPERATION of the unit will be discussed covering only one of the two paddle assemblies – that for the dash. The input to the input amplifier under static conditions is a high resistance ground, through the 10 megohm resistor R1, its output under this condition is also at ground. The ground from the output of the input amplifier IC1 clamps the base of the *npn* transistor Q1 at ground through diode D1. This ground prevents the transistor from conducting and provides an open circuit at the key's output. Placing a finger on the paddle causes a voltage to appear at the input of the input amplifier and cause the ground to be removed from its output. This ground removes the voltage clamp from the base of the output transistor. Base voltage is now provided through the 1000 ohm resistor R2, diode D1 and the 18 000 ohm resistor R3, causing the transistor to conduct. Conduction of the output transistor places a ground at the key's output. The *pnp* transistor Q2 is used when keying negative voltage keyers. The transistor is driven by the output of Q1.

OUTPUT of the key is through an open *npn* or *pnp* transistor collector. The *npn* transistor is used to key those keyers with positive voltage appearing across its input. The transistor can handle a maximum of 20 volts at 10 milliamps. The *pnp* transistor is used to key those keyers with negative voltage appearing across its input. The transistor can handle a maximum of 25 volts at 30 milliamps. When the key is used to drive an inductive load, voltage spikes developed by the inductive load must be suppressed. Failure to provide suitable suppression will permanently damage the output transistors.

ERRATIC KEYING: Voltage appearing on the paddles causes the key's output to go to ground. It has been noticed that this input voltage is reduced to the point where the key becomes erratic if one touches an AC ground while keying, or if the AC power plug to the attached keyer or transmitter is reversed. With the key and keyer connected reverse the AC power plug until erratic keying disappears. If erratic keying re-appears when the keyer is connected to a transmitter, it may be necessary to then reverse the power plug to the transmitter. ***MM***

Readers' ADs

WANTED

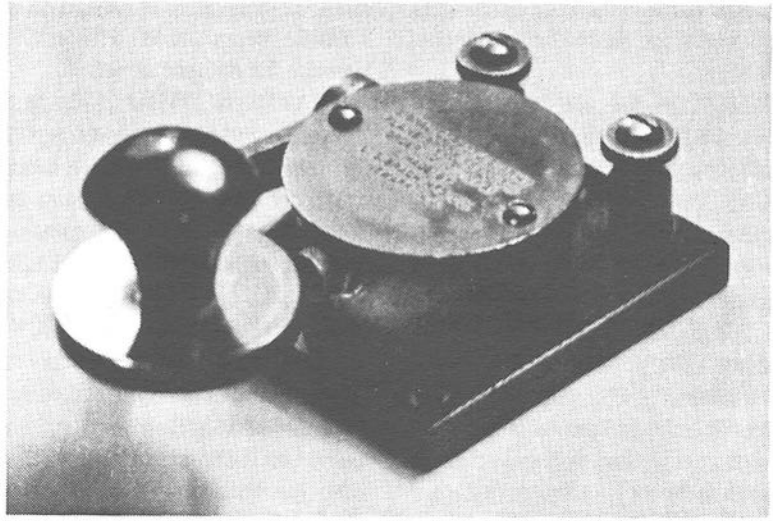
Key WT 8 Amp, two-bridge type, made by Westclox or Northern Electric of Canada, as in Fig. 4, page 24, of MM22. Wyn Davies, Pen-y-Maes, Halcog, Brymbo, Wrexham, Clwyd LL11 5DR, Wales, 'phone 0978 756330.

Fisk Solarscope; designed by Sir Ernest Fisk and produced by EMI about 40 years ago. Replies to John Davies G4ETQ, 'phone Worcester (0905) 58141 after 6pm.

Handbook of Technical Instruction for Wireless Telegraphists, 6th or 7th Edition, by Dowsett. Good price paid. Phone Geoff on Broadstone (0202) 658474.

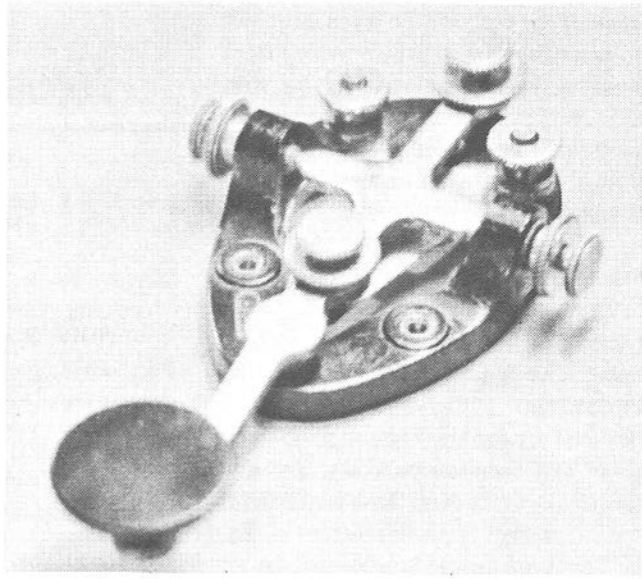
Showcase

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



Collection/photo: Jon Hanson G0FJT

(above) US Army Signal Corps flame proof key J-5-A. Order No. 2670 NY41. L.S. Brach Mfg Co., Newark, NJ



Collection/photo: Jon Hanson G0FJT

US Army Signal Corps J37. No circuit closer. May be found on an assortment of bases with different numbers, e.g., J-45, J-48A. Information from Introduction to Key Collecting *by Tom French W1IMQ (reviewed in MM17 and available from the MM Bookshelf)*

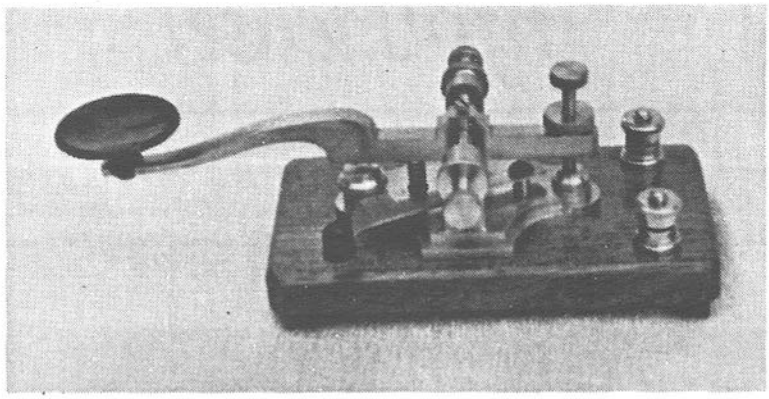
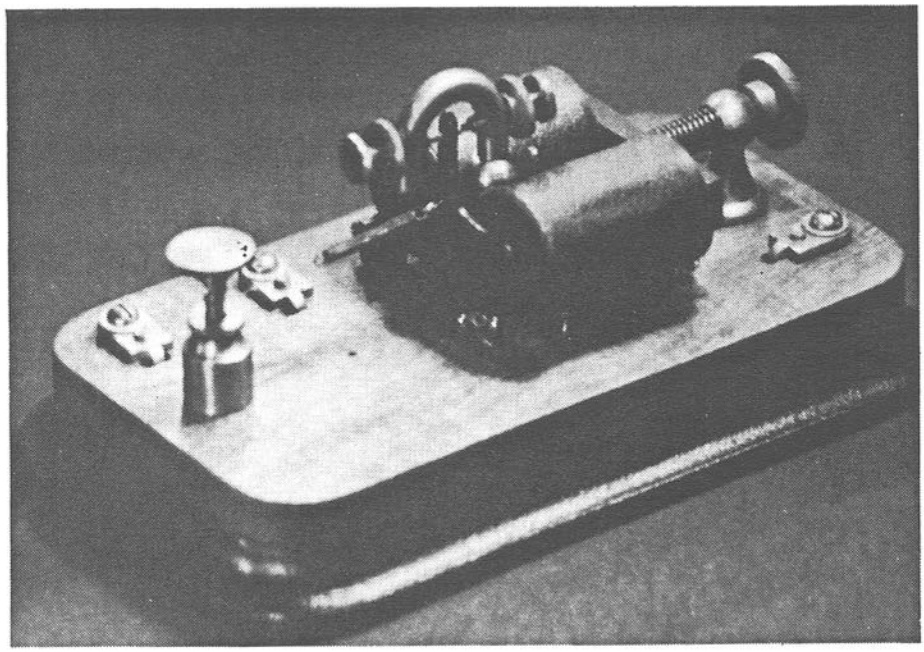


Photo: G3LLZ

Reproduction A & P telegraph key, c.1850, by Dennis Goacher G3LLZ. The base is not authentic as the original 'leg' key would have been mounted directly on an operating desk with wiring under the desk. This was the first key to have a coil spring, the brain-child of Thomas Avery, an assistant to S.F.B. Morse. A full set of drawings, with explanatory notes, can be obtained from Dennis Goacher at 27 Glevum Road, Swindon, Wilts SN3 4AA, for £1 plus postage

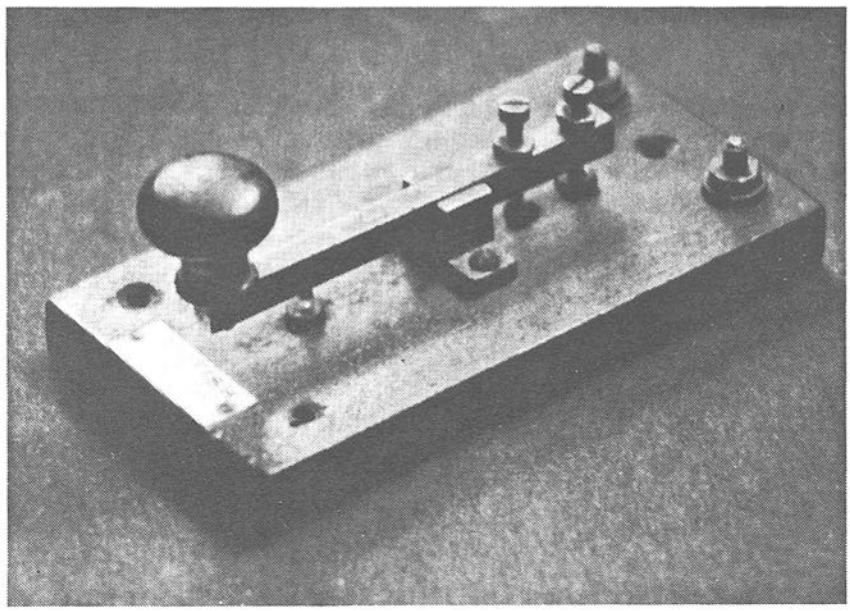


Collection/Photo: Jon Hanson G0FJT

No. 2 gooseneck pattern main line relay. J.H. Bunnell. As used by the Western Union and Postal Telegraph companies. Late model, in brand new condition

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: Jon Hanson G0FJT

(above) Unknown, 'British made'.
Information required

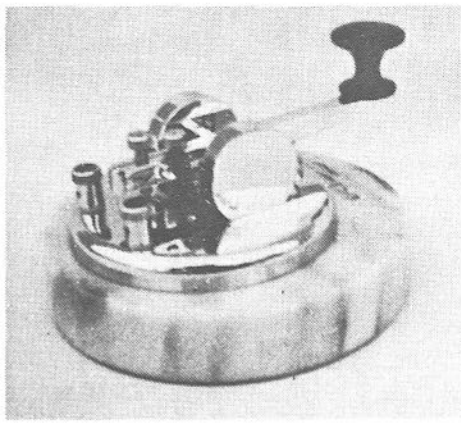


Photo: N6HI

Mystery key, no markings. Heavy chrome on solid marble case with marble 'navy type' knob. John Rehak N6HI says 'the picture does not do it justice... it's just beautiful!'
Information wanted

On Learning Morse

by Peter Davies G0KQA

LEARNING MORSE has taught me several things, mostly about myself. I've always been a slow learner. While you can teach an old dog new tricks (47 when I started), he doesn't get any faster with age. I also learned that every 'A' licensee knows the best way to learn Morse, and they are all different!

I made the mistake of accepting the then widely held view that one should get the RAE (Radio Amateur's Examination) before starting Morse because one would be ready to pass the Morse long before the RAE and then forget it. A year later the DTI removed the restriction that the Morse test expires after 12 months if not converted into an 'A' licence!

When I first started listening to the short waves I was very frustrated that I could not understand the Morse traffic. I should have started Morse then because I had a burning desire to read it. As it was, I had to train myself to ignore it because the frustration was getting to me. The problem was that after I passed the RAE I couldn't re-awaken that burning desire which would have spurred me on!

Hopefuls

I joined my club's Morse class that September along with a dozen other hopefuls. At first I couldn't tell a dit from a dah. If you played me one character slowly and then another, I could say they were, or were not, the same, but I couldn't tell what dits and dahs were in them or repeat them either. Fortunately that soon passed. I tape-recorded each evening's practice and worked on it over the week.

By Christmas I was at five words a minute and falling behind the class. I came to realise what hard work it was. Thank goodness I had taken up the 'B' licence instead of waiting for the 'A'. I became a drop-out!

The following April, G6GBV and G4XVU persuaded me to join them with G1IAK for Morse practice on Friday nights. The main purpose was to get G1IAK up to pass standard. My interest was re-kindled and encouraged when I recalled Pat Hawker's comment in *A Guide to Amateur Radio* that in WWII it had been found that anyone could learn Morse, given enough time (albeit after hearing each character about 40 000 times!).

These weekly sessions lasted about a year. I was also using one of the Club's Datong Morse Tutors. When commuting to work I would put my case on my knees with notepad and Datong on top, plug in the 'phones and get in 20 minutes practice, morning and evening, courtesy of British Rail.

Strange Man

What curiosity it raised! 'Mummy, why is that strange man writing down things from the radio?' 'Where does the cassette go in?' And the wondering looks and bent heads trying to read the Datong's mark-

ings. Sometimes, out of pure devilment, I would turn up the speed and 'accidentally' pull out the 'phone plug for a second or two.

A year later, in the autumn, I joined Roy G4UNL's Monday night class at Wood Green. I now had my own Datong and was up to 9 wpm. I went in the junior class with Nicola whose G4 husband had promised her an HF rig if she got her 'A' licence. How they drove me! By Christmas Nicola and I were promoted to the senior group to make room for some beginners. Nicola was being polished for the test. My speed was now 10 wpm.

I'd always had trouble with numbers so I spent ten days concentrating on them. With the Datong I could vary the speed and the delay between characters. Soon I was receiving numbers at 15–18 wpm and could count either dits or dahs!

Drawbacks

The Datong (and similar devices) has two drawbacks. First, it doesn't tell you what it has sent although as you go on you realise when you are making mistakes. Second, it sends computer generated 'perfect' Morse. You actually need practice in receiving hand-sent Morse as the test is all by hand. Nevertheless, it was a great help. Without it I might still be learning!

I also used a program on my Commodore 64 home computer. With this I prepared a tape of the characters I had trouble with, like I and S; S and H; H and 5; D and B; U and V; V and H. Morse had taught me that I couldn't count over two! It also brought home to me that my sense of timing is awful. I can hear E and T in the same word and confuse them because I lose the timing between letters!

Other troublesome characters were Q, L, Y, X, W, and P. One side of the tape was at 12 wpm and the other, with the same content, at 15. After a fortnight I felt cured. Try it. It worked for me!

Sending numbers was also troublesome. With more than two dahs I had to count them off as I sent them. With four or five I had to say 'diddy diddy dah' and 'diddy diddy dit' as I worked the key. Three was hit or miss until someone suggested 'have a banaaanaaa'. They all worked and I still use them. Its the only way I can send numbers. Remember? I can't count over two!

Convivial

Roy's classes were more like a little club. Besides we two pupils about half-a-dozen former pupils, now 'A' licensees, attended for the practice, conviviality, and Roy's coffee. Nicola passed the test and Fred came in from the juniors to join me.

Against my better judgement I was persuaded to put in for the test to be held in August 1988. By now I was practising in every spare period, including my lunch hour at work. There was a key and oscillator in my desk!

The dreaded day arrived. 'Dreaded' because I really felt I wasn't good enough and I'd seen the shattered wrecks of other candidates. The test was Wednesday evening and I took the day off work so I could arrive in the best possible condition.

I practised and rested and arrived in good time. There were six of us and I was in the second session. I took Datong and key and got in a little practice to 'limber up' before going into The Room!

Administering the tests, Roy was part-

nered by 'Machine Gun' Kelly, and guess who was sending in my session! His big key was mounted on a board, fastened to the table by a G-clamp. Poised over the key, his hand darted down and a single character flew out at what seemed like 25 wpm! A pause, then another pause, like short bursts from a tommy-gun. Unlike anything I'd heard before but I concentrated and got most of it.

They gave us a couple of minutes to tidy up our scripts and I filled in a few missing letters and re-wrote some illegible words. Roy said later that mine was the worst written he'd ever seen. But what chance did I have to practice calligraphy? One word escaped me totally. I distinctly heard double F but couldn't guess at a suitable word. It turned out to be double P! Penalty, two errors for the word. One more made three. Four allowed. Pass!

Now the numbers. S hesitation M, pause – that's a number? Brrup brrup, brrup brrup dit dit dit dit dit dit dit dit. He'd made a mistake in the first block! Oh boy, a chance to start again. Now I knew what to expect I concentrated hard on counting the dahs and got them all down. (Just two wrong – pass!)

Machine Gun Smiled

Sending was done individually, in private. I was the last of our three. I sat down and positioned my key. I noticed my hands were trembling. Me! Cool, calm and collected me! I was so astonished I held them up and said,'Heavens! They're shaking!' Machine gun smiled and said kindly, 'When you're ready, in your own time.' I collected my wits, glanced through the text, and sent a few Vs. The tremble was no problem, and I started.

Muffed in the middle of the second word; eight dits, send the word again. Muffed in the middle of the fourth word, this is no good, CONCENTRATE DON'T RUSH; eight dits, send word again. Halfway through, Machine Gun said, 'Stop. That's fine. Send the numbers now please.' Oh boy, two corrections. If I didn't miss any that's a pass. So far so good. Take your time, rest the arm. Now send.

Failure!

Error in the second group. Correct it! Error in the third group. COME ON, TWO IS THE LIMIT! CONCENTRATE! Correct and continue with great care. That's better. Last group coming up, oh blast! Muffed second last number. Correct and finish, but that's the third so I've failed!

I went on to the Club and when asked I said I had failed. Roy came in and when I said I wasn't out to win medals for bravery under fire he said 'But he's got a higher pass rate than I have!' He tried to cheer me up but I wasn't having it. I knew I had failed.

And Success!

The slip came in Saturday's post. A PASS!!!! It turned out that I had made only TWO errors in sending numbers, ditto text, and none uncorrected!

At the next Club meeting I displayed the slip and bragged. 'Only three years and ten months hard labour from start to finish.' G4VMR *(he prints* MM – *Ed.)* said, 'That's nothing. It took me five years and five tests.' Should I believe him?

Adapted from an article written for HAMSTER, *magazine of the Cheshunt and District Amateur Radio Club*

Bookshelf

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

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NEW TITLE

A First Class Job!

Joan Long's biography of her father, Frank Murphy, has been out of print for some years. It has just been reprinted, and is available now through the *MM* 'Bookshelf'.

In *A First Class Job!*, she describes how her father's blend of enthusiasm, integrity and professionalism combined to forge a company that became famous nation-wide for the quality of its products. Simultaneously he built up a dedicated work-force, his ideas on industrial relations being far in advance of his time.

In 1937 he left Murphy Radio to found a new firm to make and sell quality furniture for the mass market, with designs pre-dating 'Utility' furniture – and far outlasting it.

Frank Murphy died in Canada in 1955, but his memory is still green among the many whose lives he influenced.

209pp+, 5¾ x 8¼in, paperback
£8.50 (UK); £9.30 (Airmail to Europe/ Surface Mail elsewhere)

Aerials for Subs – 3

Some funny things happen at sea!

by Chas Claydon GM4GNB (SK)

ANOTHER INCIDENT in which Shorty and I were involved concerned a kite aerial. Our old L-boat was running on the surface in foul weather somewhere west of the Orkneys... neither the Main nor the Diving aerials would radiate due to spray swamping the insulators and we were ordered to put up a storm kite so that communication could be established with the parent ship.

Storm kites were smaller than the fair weather variety, which were only for use in light winds. With their lifting power greatly increased by a strong wind, it sometimes needed two men on the winch handles when reeling in a storm kite.

Kite Wire

Admiralty kite wire was 36-strand phosphor-bronze, but little thicker than 18 SWG plain wire. It was very strong and flexible, with a great appetite for skin and flesh if you tried to handle the kite without the thick leather gloves that were standard issue. The wire came in 100ft hanks, with a smaller version of the type of clip used for signal flags at each end, and several hundred feet of wire were usually wound on the drum ready for use.

The mandatory length of a kite aerial, whether Storm or Fair Weather, was 400ft. I qualified automatically for the kite launching job, being both the tallest and the most junior. I climbed up to the after-end of the periscope casing, to where it curved round the inverted porcelain bowl of the Deck Insulator, wedged a foot in either side and took the kite when it was handed up.

I clipped the end of the wire to the kite and Lieut. Commander Loudon-Browne, our captain, known to all and sundry as Low Down Brown, ordered the helmsman to turn the boat into the wind. It was not a great deal of help on that wild and windy day but at least it cut down the amount of salt spindrift whipping off a beam sea into our faces like lead shot.

It was a long and frustrating job launching that kite in a gusting wind coupled with the turbulence created at the rear of the bridge by the air stream around the periscope standards. It was made no easier by a steady flow of gratuitous advice from Low Down, whose only kite-flying experience was probably in a public park with his nanny in command.

Then the kite gained a little height with now and again a downward swoop towards the wave-tops, disaster only being averted by much hasty hauling in on my

part. Finally it flew steady and Shorty allowed the prescribed 400ft to run off before unclipping the wire from the drum and handing it up to me to attach to the central conductor in the deck insulator.

Run it All Out!

That done, I climbed down and transmission was ordered to commence. After a few minutes the traffic was cleared and we waited for the order 'Down Kite'. The order never came. Low Down was gazing at the kite straining at the end of its bar-taut 400ft of wire and suddenly asked, 'How much wire is there on the drum?'

'Another 600 feet, Sir', replied Shorty.

'Run it all out' said Low Down.

Shorty and I exchanged glances and he gave an almost imperceptible shrug before I clipped the end of the remaining wire on the drum to the kite wire and we watched the kite disappear in low cloud. We were gloomily contemplating the prospect of a hernia apiece reeling that lot in, when Shorty moved closer to me and muttered, 'I reckon we'll lose this one.'

Kite's down!

Bearing in mind M'Gonagle's Inversion of Murphy's Law, which states that when you think a thing is likely to happen it probably won't, I said, 'not a chance.' Shorty however was keeping his eye on Low Down who, together with the able seaman helmsman, was the only other person on the bridge apart from we two. When Low Down turned to look over the bows there came a sudden shout from Shorty, 'kite's down Sir.'

Sure enough, the kite emerged from the cloud and plunged into the sea. Low Down, seeming somewhat peeved, snarled, 'what happened?'

'Wire parted', replied Shorty, adding 'we don't usually run out more than 400 feet, Sir'...

Low Down seemed about to say something else but had probably remembered that as captain he should have known that anyway. He told us to put some more wire on the drum and had to be told as tactfully as possible that we had used up the quarter's issue. His reply was 'clear the bridge.'

Shorty and I made our way down the conning tower hatch ladder to the Control room and squeezed into our tiny Wireless Office.

'Bit of luck, that wire parting', I said. Shorty smiled as he carefully replaced the side-cutting pliers in the tool rack. 'Yes', he said, 'some funny things happen at sea.'

MM

Earthquake Memories

by Ero Erickson

THE San Francisco earthquake a few years back shook the dust in my brain, unearthing related information of long ago. I often wondered what the city of Watsonville, California, was like, having once encountered a person from the ss *City of Watsonville*, a West coast 'steam schooner'. When the 'quake hit, I found out – the city popped out of our TV set.

The first time I sailed through the Golden Gate there was no bridge. An old snapshot of a crew member shows only a partially completed tower in the background. This being my 'FS' (First Ship, an abbreviation used in the operator listings by the Society of Wireless Pioneers) after over a year of unemployment, it was very exciting and made me feel like a part of the gold rush which happened seventy-five years earlier. We docked to unload some sulphur in Alameda, which is near Oakland, the site of the double-decker highway collapse a few years back.

Oscillating Receiver

A year later, I remember there were a dozen ships at anchor – tied up due to labour problems. The stranded operators communicated with their regenerative receivers between each other by putting a telegraph key in the ground lead of the antenna. The oscillating receiver would radiate a local signal in an improvised network without using the transmitter. (The present day cats make a big fuss about 'networking'. Big deal, we had that fifty years ago.)

During World War II this type of receiver was replaced by a TRF (Tuned Radio Frequency) set. The TRF set did not emit a tone which enemy submarines could home upon, preventing the loss of many allied ships.

Back to earthquakes. When I was a very small tyke I listened to stories about the 1905 San Francisco earthquake which destroyed most of the city. A man who was there, a Swedish scenery and sign painter, related his experiences while working on stage scenery. Every day I used to go listen to him backstage. He said that after the major shocks, a group of Finns and Swedes gathered in the hills to erect makeshift shelters and cook outdoors in a grove of trees.

A group of men would forage for food in the box cars at the railroad yards, there being no relief organizations according to him. No two-way radio system assisted in

the disaster relief. The US Army was on the scene, however, and should a soldier see an able-bodied man, the man would be detained and given a shovel to work with a crew cleaning up the rubble in the streets. He would be sent to an army field kitchen for chow, probably soup and bread.

Tight Scheduling

Returning to the 'steam schooners' I mentioned earlier, in the course of sailing along the coast to load up with lumber, ships had to enter many small ports to get to the saw mills. A West Coast type of wooden ship was developed called the 'steam schooner'. These small ships had tall booms that could reach out over the lumber dock for a skid load of fresh boards delivered by a 'jitney'*. Prior vessels were sailing ships. Steam was an update, and the booms you couldn't miss even miles away.

A company in this business once tried to run twelve ships with ten wireless operators. With the tight scheduling in this shuttle, an operator had his suitcase packed all the time. When he pulled into port, another ship without an operator would be waiting. He would sign off, grab his bag, walk down the dock and up the gangway to his 'new' job. The whistle would blow, lines were cast off, and another four-day trip was under way. His FCC license service record got crowded, so everyone had a legal size paper attached for the captain's signature.

** A small motor-vehicle, usually carrying passengers for a small fare. – Ed.*

No Information

While anchored off Astoria, Oregon, waiting for the weather to moderate, the ss *Iowa* steamed by us and headed out. The captain had decided to cross the Columbia River bar. He never made it, nor did thirty-eight of his crew, including several of my friends. The next day we entered Grays Harbor and docked at Hoquim, Washington, followed by the ss *City of Watsonville* who tied up astern. The radio man came aboard and said he had heard the *Iowa*'s SOS sputter out and that we might walk uptown to get a newspaper for details.

We found nothing. Of course, today it's different with the electronic media. Sometimes TV has the earthquake live and in progress. The commanding virtue of electronics is that relief and assistance come faster to alleviate human suffering and disastrous destruction. ***MM***

Club Profile – 7

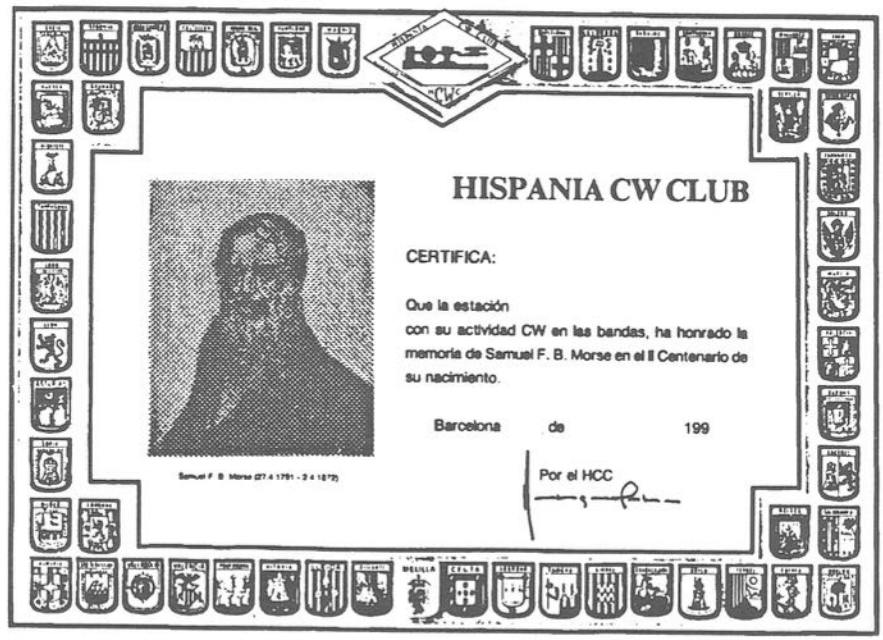
Hispania CW Club (HCC)

THE HCC is a national organisation devoted to encouraging the use of CW in amateur radio in Spain. Membership is open to all Spanish radio amateurs and to foreign amateurs provided they have a Spanish call. There is no speed requirement for membership. The club is a member of the European CW Association and its members regularly support the various EUCW activities arranged by other member-clubs and by EUCW itself.

Most informal HCC activity is around 7.020/7.028MHz, with the majority of QSOs in Spanish. A Straight Key contest is held at the beginning of each year with the actual date chosen to avoid unnecessary conflict with similar activities arranged by other organisations.

Throughout the year, to keep members active and involved, longer-term contests are held such as a 'CW Marathon', the 'Rami Game', and the 'II Centenary S.F.B. Morse' which has an award bearing a portrait of Prof. Morse. An annual meeting of members is held in a different city in Spain each year.

continued on page 48



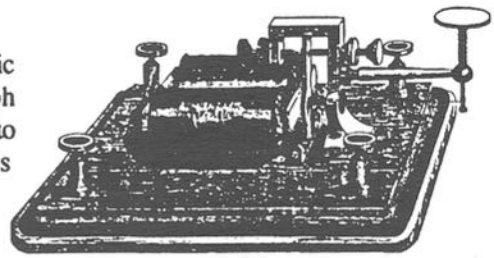
The HCC '2CSM' Award, an impressive full-colour certificate measuring 14¼ by 10¾ inches

Your Letters

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

The Magnetic Relay

Prior to the invention of the magnetic relay the distance between telegraph stations was frequently quite small, due to ohmic losses in the circuit. In those days to send a message it had to be 'relayed'. This means it was received by one operator and then re-transmitted to another. This was both expensive and increased the likelihood of errors. To solve this problem the magnetic relay was invented.



Early telegraph relay

From History, Theory and Practice of the Electric Telegraph, *by George B. Prescott, published 1864*

From this simple device a whole range of logic circuits was to evolve. These were based on relays which now carried complex switching systems, e.g., multi-pole switches in which certain circuits 'broke' before others 'made'. Telephone exchanges and railway signalling systems were good examples. The development of such circuits and a branch of mathematics called Boolean algebra laid the foundations of modern computing.

Nowadays, with the growth of electronics and solid-state switching devices, the magnetic relay takes a back place in control technology.

However, like Morse, it once ruled the world. I sometimes wonder if the inventor had any idea of just what he had invented, and what his reaction would have been had he been able to see what was ultimately achieved by the humble magnetic relay. Question: I wonder what simple device there is today that will make a similar impact on the world in future years?

Gerald Stancey G3MCK
Staines, Middlesex

(MM *footnote: The invention of the magnetic relay, around 1835, has been variously attributed to Joseph Henry, Samuel F.B. Morse, and others. We hope to discuss these claims in a future issue of* MM *and would welcome serious contributions on the subject. – Ed.)*

Morse Music

***MM* readers** may remember the German synthesiser group 'Kraftwerk' who were famous in the 1970s for their records *Autobahn* and *Radioactivity*. In the latter, the spoken/sung English/German text alternates throughout most of the record with the same text in Morse. This is hand-sent at about 12 wpm on synthesiser, sometimes distorted but quite readable.

Another Morse song was *CQ-serenade*,

which included 'CQ' in Morse. This was originally from Canada or the US and was featured in an early issue of Dutch *MM*.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

*(*CQ-Serenade *will be reprinted in a later issue of* MM. *Can readers provide other examples of Morse music as distinct from the media-CW we have been featuring recently? – Ed.)*

Double-ended Key

The photograph from Maurice Small (MM25, p.40) stirred memories of distant school days. Philip Harris were, and still are, manufacturers of scientific equipment, especially for use in education, and the name and the photograph made me wonder if it is a Morse key at all.

I have memories of doing an experiment with a magnetometer – a large coil in the vertical plane surrounding a horizontal compass needle – in which we used something very like the instrument in the photograph to reverse the current flow in the coil. The positive supply was to the centre connection and moving the 'key' one way or the other allowed for current reversal.

Ron Wilson G4NZU, Nottingham

When I was a schoolboy in the nineteen-forties every piece of equipment in the science laboratories carried the name 'Philip Harris'. It stuck in my mind especially because of the popularity at the time of the jazz singer Phil Harris.

The equipment was all very chunky and Edwardian-looking, and included a great range of electrical gear; coils, compass-needles, galvos, and switches of all kinds. I would suggest that the 'double-ended key' is part of such kit, probably used for reversing polarity through a coil to demonstrate Mr Faraday's laws.

Graeme Wormald G3GGL
Bewdley, Worcestershire

I recently saw an item in an Oxford antiques arcade very similar to that described by John Gilbert in MM24 (p.44). This was made by Muirhead and appears to be a special type of switch. One end contact is marked 'CONDENSER' and the other 'GALVO'. However, as the item was also marked £45.00, I did not pursue this!

Dennis Goacher G3LLX
Swindon, Wilts

Keys like those illustrated in MM24 (p.44) and MM25 (p.40) were not Morse keys at all, but general-purpose testing keys. To give just one example, the test set at a terminal station might incorporate such a key for locating an open-circuit fault on a submarine telegraph cable. (Leakage faults could be found by resistance measurements using Wheatstone bridge methods, but these were unsuitable for an open circuit into which no continuous test current could flow).

Depressing the key one way would charge the cable from a DC battery. Pressing it the other way would discharge the same cable through a ballistic galvanometer. By comparing results with a similar test made on a standard precision capacitor, the capacitance to the break was calculated.

Knowing the capacitance-per-mile of that type of cable would allow the repair ship to be sent to the correct bit of ocean. Routine fall-of-potential tests of the insulation resistance of good cables

would sometimes employ the same type of key, and there were many non-submarine applications in electrical laboratories circa 1880–1910.

John Packer G3NRD,
Hon. Curator,
Porthcurno Telegraph Museum

Thank you for your letter about a double-ended key mentioned in *Morsum Magnificat* magazine. This item has been a part of our range of science education equipment for a great many years and, whilst no longer made, was available until 1989.

It was not a Morse key as such, although it could no doubt be used as one if desired. It was actually designed to provide the rapid change-over switching action required for certain types of laboratory experiment, particularly those involving capacitors, ballistic galvanometers, etc., hence its official title 'Charge and Discharge Key'.

(Reply received by the Reverend Duncan Leak G0RJT, after writing to Philip Harris Education to clarify exactly what their double ended key (MM25, p.40) was used for.)

Other Applications for Morse Code

From an engineer who repairs computer hard disc drives, I learned recently that some drive failures are signalled to the outside world by flashing the panel LED in very slow Morse. 'Head position selector failing', for example, is 'D'. There are other codes, but he would not reveal these. *(Does anyone know the other codes? – Ed.)*

Dennis Goacher G3LLX
Swindon, Wilts

I use a Tektronix 2710 spectrum analyser, having a range between 1kHz and 1.8GHz, for measurements in TV and radio networks.

Surprisingly, this instrument, full of microprocessors and high technology, also uses Morse code!

During the first ten seconds after power-up it sends QRX (stand by) at about 18 wpm, and it also sends 'all is well' in Morse after initialising procedure.

Henri Jacob F6GTC
Hoenheim, France

Zogging

I recently read a book by a retired Air Chief Marshal which describes a novel form of signalling used by the RAF on the North West Frontier of India in the period 1934–36.

Aircraft then had open cockpits and there was no air-to-air R/T. The only way of passing non-standard messages between aircraft flying in company was by 'zogging', a method of sending Morse code visually.

The two aircraft flew side-by-side, a short distance apart, and the pilot with a message to pass put his arm over the side of the cockpit. A long downward sweep with the fist closed indicated a dash, and a short downward sweep from the elbow, a dot.

I joined the RAF as an Aircraft Apprentice in 1937 but I had never heard of this system before. It died out as aircraft speeds increased and R/T was introduced. Was it unofficial? Was it confined to the North West Frontier? Can any readers throw some light on the subject?

The book was *Never Stop the Engine when it's Hot*, by David Lee, published

1983 by Thomas Harmsworth Publishing, ISBN 0 9506012 4 1.

R.A. Parrott G3HAL
Chard, Somerset

Left-handed?

I think that Horace Martin, inventor of the Vibroplex was a left-handed operator and the Vibroplex as sold is the wrong key for right-handed operators!

The thumb of the right hand makes the dits but it has a slower reflex which should be making the dahs. If we use the key left-handed the thumb will be fine for the dahs and the much quicker index finger will be better commanding the dits.

Gaspard Lizee VE2ZK
Laprairie, Quebec, Canada

(What do other Vibroplex users think of this proposition? – Ed.)

Morsum Is Best!

According to Bruce Norman, in his fascinating book *Secret Warfare*, 'Morse code is not really a code at all but a substitution cipher with dots and dashes replacing letters.' He explains that a code operates on complete words or phrases and a cipher works on single letters.

I think I'll stick to Morse CODE. After all it IS named after the great man, and in any case CIPHERUM MAGNIFICAT wouldn't get the message over quite as well!

Roy Harry G0EWC, Bristol

Early Sounder

My sounder, featured on the front cover of MM20, is very probably of the type first used in London's Central Telegraph Office. An article in *The Illustrated London News*, November 1874, shows various types of instrument in use at that time including an 'American sounder' which looks very similar to mine. The number, 1444, is probably an internal GPO serial number.

I found the sounder about 10 years ago in an 'antique' shop in St Albans. It was in a terrible state and I had to completely dismantle it. I cleaned and lacquered it and the only part that had to be replaced was the spring.

Ian Gurton G0CPN
Harpenden, Herts

G.W. Man Alive and Well!

After reading Larry Robinson's review in MM10 (p.44) and Bill Young's remarks in MM11 (p.40), I became determined to own a G.W. key. Since then I have advertised in *MM* and elsewhere without success.

After some detective work, I finally managed to trace John Wilkes, the G.W. man. He has moved twice since he left the original Rhyl address. In 1988 he suffered some ill-health and decided to get out of the rat-race and take a breather. He has, however, been making keys for government agencies and certain companies on a regular basis.

When I met John recently, he confirmed that he would make keys to order for anyone. He still makes the original G.W. key and another one based on the Swedish Navy key. Both are made of brass on Welsh slate bases.

I am now the owner of both keys and am over the moon with my purchases. I totally agree with Larry Robinson's review of the original key. The new model is also a pleasure to use. My only criticism is that it is a bit noisy in use

even though John fitted a plastic bush under the front contact.

For anyone interested, these keys can be obtained from John Wilkes, 10 Vicarage Lane, Rhuddlan, Clwyd, North Wales LL18 2UE. Tel: 0745 590167. The Original G.W. Key is £34.50 including post and packing (UK only, overseas extra), and the New G.W. Key is the same price.

Wyn Davies
Brymbo, Clwyd, Wales

Key with Spark Gap

I used the type of key illustrated on page 24 of MM25 to instruct fellow cadets at Christ's College, Finchley, in 1940–42. It was known to me as a 'P & O' key and I remember it well for having a particularly 'soft' feel.

Tony Timme G3CWW
Linthwaite, Huddersfield

I think we had one of these keys in the Morse room at the old Liverpool Wireless College, and it was called a 'Siemens Key' there. But I also think a London firm (Electradix?) sold them pre-war as ex-Air Ministry keys.

My gut feeling is that they were made for the A.M., probably for airship use, perhaps originally by the RNAS and then, after 1 April 1918, by the same people, now RAF.

Unfortunately, I cannot document this. As an aside, they MIGHT be of French origin as the RNAS bought a lot of lightweight French spark sets which were used on the east-coast flying boats and perhaps also on the airships.

Gus Taylor G8PG
Greasby, Merseyside

More Natural Breaks

Regarding Q-codes for natural breaks (MM25, p.45), perhaps QKF (may I be relieved?) could also be used?

Dennis Goacher G3LLX
Swindon, Wilts

Other suitable natural breaks are QAR (You may cease keeping watch for ... minutes in order to ...), and QUG (I am forced to alight) both used in conjunction with QAU.

John Short G3BEX
Seer Green
Buckinghamshire

In the RAF in Iraq (1944–46), we used QHU 'I am water-borne' to announce a 'natural break'. As far as I can recall, 'QHU 2 MINS' was usually sent.

I did once receive QHU sent authentically, from a Sunderland flying boat which was alighting on the nearby lake, when I was operating the approach control channel of No. 40 Staging Post, RAF Transport Command, at Habbaniya, some 55 miles from Baghdad.

I thoroughly enjoy reading *MM*. Keep 'em coming!

Alan Johnson G0KCJ
Tankerton, Kent

Several readers have written to say that QKA has been allocated (see 'Natural Break', MM25, p.45).

It is listed in ACP.131(A) as 'I have effected rescue and am proceeding to ... base (with ... persons requiring ambulance).

It was also apparently used for 'Authentication of this message or transmission is ...' (Air & Army).

An Early Starter

My son Michael, aged 7, likes to listen to me sending CW on the air. One day he said 'are you talking to G4PEP?', a local amateur. He had recognised the sound of G4PEP in Morse,

From there, we just picked a word from the newspaper and I asked him to learn it in Morse for the following day. My daughter joined in so it became a family project with a test at the end of the week rewarded with a Mars Bar!

When we are out in the street, the name of the game is 'Say in Morse' the registration number of the car in front of us, the street name, the shop sign, and so on. We find this is a good way to prevent travel sickness and journeys pass more quickly.

Michael and Shelley

I send Morse at 12 wpm to Michael because that's the speed he is most comfortable with. He likes to use the electronic keyer but he has a nice touch with the straight key. Morse is the one thing he can do better than his big sister Shelley, who won a Post Office 'Post Early for Christmas' poster design competition and was both regional and national over-all winner.

Apart from Morse, Michael likes watching *Thunderbirds*, and Nigel Mansell on TV; playing snooker and racing his remote-control car and hovercraft. I'm hoping he will keep up his interest in Morse, however, and take the exam before his 8th birthday in March 1993.

Mike Hindley G4VHM
Hull

(We would like to hear about other 'early starters', and how they learned the code. – Ed.)

Abbreviations and Procedures

I can understand Philip Scrivens (MM24, p.32) not liking my comment in MM22 (p.33) on the 'unimportance' of the precise meaning of IMI barred. What I meant was that when the symbol follows a word or a phrase, or is used by itself, either interpretation will lead to the same action.

I did include 'I am repeating that' as another usage, although I think II is more generally recognised for separating two sendings of the same word or phrase.

In the absence of an internationally agreed operational practice for Amateurs, I refer to the *ITU Maritime Mobile Manual*. This includes extracts from the *Instructions for the Operation of the International Public Telegram Service*, which in turn cites CCITT Recommendation F.1.

Division B of Part C of the manual deals with the Morse code. In this · · – – · · is identified as 'Question mark (note of interrogation or request for repetition of a transmission not understood).' There is no mention of a meaning 'I say again'.

There are several symbols in this official ITU version of the code that are unfamiliar to Amateurs, and we don't

have to learn them. There is no reason why we should not adopt some symbols of our own devising, but it would seem unwise to adopt symbols that are actually in contravention of the ITU code. It is one thing to use an unfamiliar word or symbol, but it leads to confusion if we use an existing one in an unfamiliar way.

Philip Scrivens' comment about AR barred is interesting. The ITU code shows it to mean 'cross or addition sign'. In the RAF in 1940 we were taught it meant 'end of transmission' and should be written as a cross. In Amateur operation there is not much need for this symbol but there is no alternative at the end of a broadcast bulletin or statement with no subsequent invitation to transmit.

Bob Eldridge VE7BS
Pemberton, BC, Canada

Regarding the difficulties experienced by Philip Scrivens (MM24, p.32), when I was an operator at Scheveningen Radio/PCH in the 50s I sent · · · · (it is) before the repetition of a word and that was never misunderstood.

Ing. J.P. Lagerberg PA0JY
Velserbroek, Holland

Philip Scrivens' article took my mind back half a century to No. 1 Radio School at Cranwell, where we were always taught that IMI stood for 'I Missed It', and was a request for a repeat – it never had any other meaning!

Douglas Byrne G3KPO
Ryde, Isle of Wight

In reply to Philip Scrivens' comments (MM24, p.32), may I add my own experiences? I had no formal training in CW operating and learned Morse from my father, for fun, when I was about 14.

Eleven years later I took the Morse test and RAE, teaching myself from available books. I therefore had no bias or preconceived ideas about amateur procedure.

My understanding is that · · – – · · means '?', and can be used as 'what was that?' (repeat please) or in 'ur QTH?' (please repeat your QTH). I cannot see any reason to suggest it means 'I am repeating' and, thankfully, I have never yet come across anyone using it in this context.

Philip's mention of II, meaning 'I say again', is what I remember of the advised use, but on the air I usually just repeat with a pause if conditions really demand it.

AR barred means + ('over'), usually sent before callsigns on each over except the final.

VA barred means 'good-bye' (end of work), usually sent before callsigns on the final over.

CL means 'off and clear' (closing down), usually sent after callsigns to announce you are leaving the frequency.

CT barred means 'commencing traffic'. This is used by Morse tutors and examiners and by some newly licensed stations until they discover the more gentlemanly habit of calling 'QRL?' ... long pause 'QRL?' ... pause 'CQ CQ CQ de ...'

One of my early QSOs included a reply 'so lid copy' and I seriously thought he was trying to wind me up as the textbooks clearly state a 'lid' is a bad operator. I realised my mistake later and then thought 'why didn't he just send "R" ' which would have been clear and unambiguous.

I agree entirely with Philip about the possible confusion between 'rpt' and 'rprt' and suggest the best way to request a repeat of name is to simply send 'name?'.

KN barred is heard on the air as is KN unbarred. It took me a long time to realise that the former is also 'open brackets'. Some operators make a point of sending KN unbarred with a distinct pause to emphasise that they do not mean 'open brackets'.

I do feel there is a danger in attempting to put rules down which are too strict for the amateur service. We have many different ideas which have come from the services and other Morse professions, all of which contribute to what actually goes on in the amateur bands. The balance appears to me to be just about right at present.

Robert Coleman G4RJC
Upminster, Essex

I refer to the list of abbreviations for the UK Novice licence, as published in MM25, p.3. I have the advantage of being very new and green to everything so that I am easily puzzled by things most others take for granted. My point may be trivial but I make it 'for the record'.

One of the 'official' abbreviations is EL. This would be self-evident in context (5EL YAGI, etc.) but out of context I did not recognise it and found to my surprise that it was not in my cumulative notes.

It does not occur in 11 separate publications I have checked relating to Morse operating, including four from the RSGB. I eventually tracked it down in *Morse Code, The Essential Language*, by L. Peter Carron Jr., W3DKV, published by ARRL.

It is an unexpected shortcoming to find so little mention of an abbreviation now needed for the Novice examination.

Reverend Duncan Leak G0RJT
Tittensor, Staffordshire

(Apart from Pete Carron's book (reviewed in MM21, p.7), references to EL are included in Amateur Radio Q & A, *by the late F.C. Judd G2BCX, published by Newnes Technical Books in 1980 and in a list published by the Brazilian magazine* Antenna-Eletronica Popular *in 1984.*

Moving to more modern publications, it now appears in current information issued about the Amateur Licence by the UK Radiocommunications Agency. and in the operating data section of the 1993 RSGB Call Book.

I must admit that I, too, had to think twice when I first saw the abbreviation in material for MM. *I had the impression that ELE was more commonly used, but looking back through old QSL cards, I found that the two are about equally favoured. – Ed.)*

May I put right a widely held (and erroneous) belief. K and N at the end of a transmission are not barred; they are quite separate. K is, of course, an invitation to transmit. The N is added to inform other stations that the invitation applies only to the station being contacted and that calls from others will not be welcome.

KN barred means 'brackets on' (used in conjunction with KK barred: 'brackets off'). Verification of this can be found in the *Handbook for Radio Operators*, Appendix 1 - 'International Morse Code Signals', issued by HM Stationery Office.

PA3FBF's use of 'C' (yes) (MM25, p.39) is good procedure, but probably not

understood by many; in which case I would suggest that the answer to 'QRL?' is 'QRL'.

Jeff Jeffrey VK6AJ
South Perth, Western Australia

(Lists of CW operating abbreviations published by the RSGB and the ARRL both maintain that the KN sent at the end of a transmission is 'barred'. As it is the last thing sent at the end of 'over', it really ought not to cause confusion.

When I was at sea in the 1950s, left-hand and right-hand brackets were both KK barred, causing problems if you were handling a telegram containing 'nested' brackets. The 1968 Edition of the Handbook for Radio Operators *specifies the new system. – Ed.)*

CW Etiquette

With reference to Gerald Stancey's letter (MM24, p.43), I remember a QSO I had with a station somewhere in the east of Russia that I hadn't worked before. He called CQ at over 35 wpm while I, with a tennis elbow, could not use higher than 20 wpm without making mistakes.

I answered his CQ and he gave me his name and QTH once. I answered him with my low speed and repeated his QTH. He said 'OK tnx fr QSO and · · · — · —'

Later on I received his QSL card. I think that's one way of having a contact despite the difference in speed.

Ing. J.P. Lagerberg PA0JY
Velserbroek, Holland

More Media CW

In answer to Claude Passet (MM24, p.43), as from 1992, 'Danmarks Radio' now commence their news-broadcasts with a synthesised tone spelling out DRNA in CW, at a speed of approximately 80 characters per minute.

I believe this means 'Danmarks Radio Nyheds Afdelingen' or, in English, 'Denmark Radio News Department'.

Thanks for an always interesting magazine.

Jens H. Nohns OZ1CAR
Bording, Denmark

In Sweden CW is used before each news programme on our third radio channel, Sveriges Radio, (SR is sent). We also have a weekly show programme called På Håret, where PÅ is sent.

Peter Montnemery SM7CMY
Trelleborg, Sweden

The French TV station M6 closes its '6 Minutes' transmission at 1954–2000 and 0000–0006 GMT by sending 'M6' in Morse.

Henri Jacob F6GTC
Hoenheim, France

No doubt many readers of *MM* will remember the opening frames of the films produced by RKO Radio Pictures Inc., which showed lightning flashes emanating from the top of a tall lattice radio tower standing on top of a revolving globe.

Synchronised with the flashes, 'VVV RADIO PICTURES VVV' could be heard spelled out in Morse at about 25 wpm.

Many years ago, too, the American radio newscaster and journalist Walter Winchell used to preface his 'FLASH' items with a rapid series of Vs sent on a bug-key. I think the station was WNEW in New York.

Leonard Moss G4VXJ
Birchington, Kent

Isle of Wight

I noted John St. Leger's difficulty (MM24, p.47) in finding evidence of Marconi's stay on the Isle of Wight in the late 1890s. Presumably, at that time, the local people took little notice of what they considered was just a rich young man playing with a new-fangled 'toy' – which could be of no use to anybody! Had they but known...

One amusing story, well authenticated, was when Queen Victoria wished to keep in touch with her son, later King Edward, who was sailing his yacht in the Solent – quite a short distance from her home at Osborne House, Cowes.

It was suggested that Marconi be asked (or commanded!) to set up a wireless station at Osborne House and on the yacht, so that messages could be passed between the two, and this worked quite well until Marconi – quite unintentionally – blotted his copybook.

He was walking through the grounds when he met the Queen and, meaning to be polite, doffed his hat and said 'Good morning your Majesty, isn't it a lovely day for a walk?' The Queen was furious, as nobody **ever** spoke to her first – all he should have done was to have bowed deeply.

'Dismiss that young man immediately' she commanded of her aide, who commented, 'But that is Marconi, the inventor of the wireless'. The Queen's retort was quite definite. 'Well get another electrician'.

It took some little time to convince her that just 'another electrician' would not fit the bill, and in any case young Marconi was quite innocent as he was not English and therefore could not possibly know the correct etiquette when meeting royalty.

The story ends that Her Majesty forgave Marconi and invited him to tea with her – a great honour!

Douglas Byrne G3KPO
Ryde, Isle of Wight

Coherer Puzzle

I have recently been preparing a talk on early radio for a local club and have come across a 'puzzle' with regard to the coherer.

The earliest work I can locate is that of Prof. Onesti in 1884, yet Prof. David Hughes used the principle in his 'microphonic detector' in his experiments of 1879, some 8 years before Hertz's classic demonstration.

So where did Hughes get his ideas for his detector? Can any readers throw light on this puzzle please?

Ron Wilson G4NZU
Nottingham

Porthcurno Telegraph Museum

This museum is situated at the Cable & Wireless College in the old tunnels which housed a submarine telegraph station in WWII. It is not open to the general public but readers of *MM* may visit by appointment.

However, in mid-1993 the College moves to Westwood Heath Business Park, Coventry, to new buildings which will incorporate a purpose-built telegraph museum. This too will be open to interested visitors by appointment from about October 1993 onwards.

I also have a small private collection that I would be pleased to show any *MM* readers who may holiday in West Cornwall (phone Penzance (0736) 67088). This includes telegraph test sets, induction

and medical coils, field telephones from both world wars, and WWII wireless, amateur radio station, antique keys, sounders, meters, etc.

John Packer G3NRD, Hon. Curator
Porthcurno Telegraph Museum
C & W Telecommunications College
Porthcurno, Cornwall TR19 6JX
Tel: (0736) 810477

Lamp Signalling, Daylight

A number of readers have sent information about the Lamp Signalling Daylight – Short Range, featured in 'Showcase', MM25, p.25. This information is being kept on file for the present, pending preparation of a feature on various aspects of light signalling.

Further contributions will be welcome, especially extracts or copies from manuals, photographs or drawings, previously published articles, operating procedures, details of applications and personal experiences. If you can help, please write to **Tony Smith, 1 Tash Place, London N11 1PA, England.**

CW/Mobile Safety

I feel very strongly about safety when operating CW/Mobile and believe that both hands should be on the driving wheel to ensure full control of the vehicle. Also, the operator should concentrate on the road ahead and not turn to speak to passengers, or fiddle with something below the dashboard, while driving.

I have done a lot of CW operating when mobile and have had many queries about operating on the move. My rig is a Ten-Tec Delta so there is no problem using QSK (break-in) for control. Over the years I have experimented with the key position – on the driving seat, on the door alongside the driving seat, etc.

The best solution is to have the paddle key on the driving wheel and connected to the keyer by a flexible screened lead, using a stereo jack/socket arrangement, with the lead routed via the front (driver's) side of the wheel in order not to snag the wheel when turning sharp corners. This enables two hands to be on the wheel when driving, and the keyer and paddle can be jerked apart if necessary.

My paddle is mounted on a small block of wood, with foam glued to the base of the wood, and an elastic strap around the rim of the steering wheel holds the assembly in position.

The ideal solution would be a paddle with a two-tone ultrasound output, one for dashes and one for dots, attached to the steering wheel. The outputs would operate a keyer interface circuit, via an ultrasonic microphone, thus eliminating the wiring between paddle and keyer. If anyone could produce such an arrangement I would be pleased to test it for them.

For safety, one should send QRX when in traffic, or on a roundabout, when concentration on driving is required – the other operator should understand and stand by for you. It is helpful in the UK that there is no requirement to log callsigns when /M, only the start and finish times, locations, and the bands used during the journey.

Incidentally, like John Rehak (MM25, p.21), I too have a CMOS Super Keyer II which I have modified with an extra switch to disable the four memory buttons as I also found that they operated, and flattened the battery, when I carried the keyer in a box with other items. This

keyer is too simple for words to construct. For, say, £40 you have a programmable memory keyer comparable, if not superior, to units sold for over three times the price!

Neil Little GW3YVN, Caerffili, Wales

(We would be pleased to hear from other CW/M operators on the matters raised here, or on any other aspect of CW/M operation. – Ed.)

Changes in the Code

I earned my first Amateur licence in 1936 when I was 16 years old. In those days the Morse for 'period' was ·· ·· ·· ; a comma was ·—·—·— ; and the exclamation mark was ——··——.

I married in 1942, went to war and when I returned did not resume activity in amateur radio.

Three years ago I decided to get back on the air, and to my surprise I found the code had changed. The period was now ·—·—·— ; the comma had become ——··—— ; and there was no longer a symbol for the exclamation mark.

My question is, when were those changes made, by what organisation, and why? Once in a great while I hear some old guy like myself use the old symbol for the period – like a voice from the past!

Bob Hammond N7YXC
Edmonds, WA, USA

(The symbols were changed at the Cairo International Radio Convention (ITU) 1938, and became effective on the 1 September 1939. The period was changed because commercial printers produced it as III. The exclamation mark was abandoned because it was not used commercially – except for personal exchanges between operators. – Ed).

CLUB PROFILE – 7
Hispania CW Club (HCC)

continued from page 36

News & Awards

CW news bulletins are transmitted on 7.028MHz, in Spanish, at 14 wpm, on the first and third Sundays of the month, except the holiday months of July and August when they are on the third Sunday only.

There is a 24-hour recorded telephone information service on (93) 226.88.27. The main source of information for this service is the RSGB DX news sheet and the RSGB's own recorded service. The club also publishes a 'Circular Sheet' (newsletter) three or four times a year.

Apart from the limited '2CSM' (Second Centenary Morse) award mentioned above, the club has two attractive full-colour 'Spanish Painters' awards, SPA/G and SPA/M, which are available to all amateurs, whether HCC members or not. The SPA/G certificate carries a reproduction of 'Guernica' by Picasso, and SPA/M carries a reproduction of 'La Maja Desnuda' by Goya.

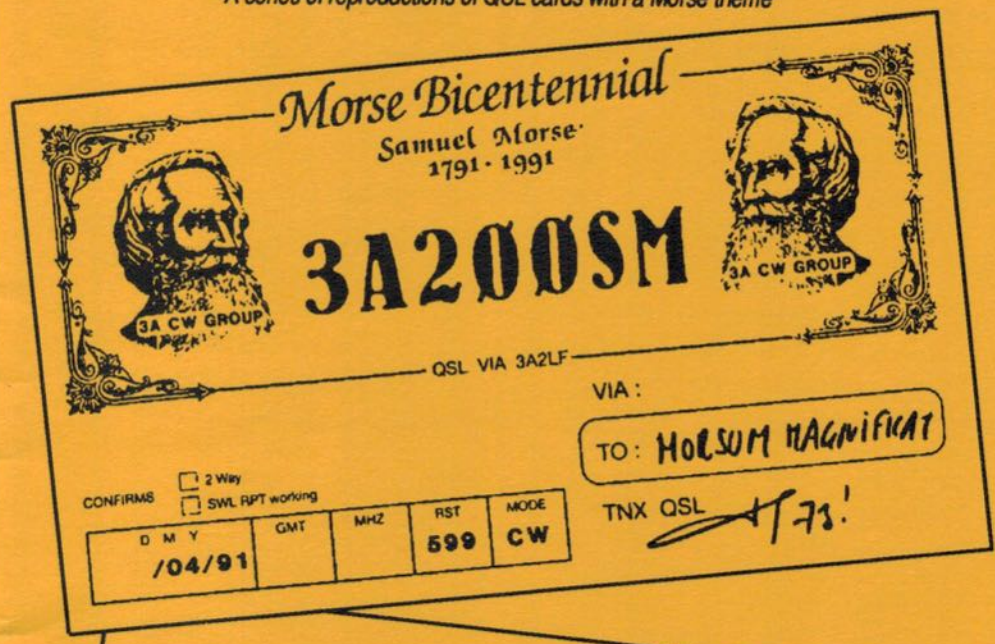
Membership Information

The annual membership fee for all members, Spanish or foreign, is 2000 Ptas. Enquiries about HCC or its awards, and applications for membership, should be sent to Jero Orellana R., EA3DOS, Av. Roma 10, 17.C, 2a, 08015 Barcelona, Spain. *MM*

(Our thanks to EA3DOS for assistance in preparing this profile.)

Morse QSLs

A series of reproductions of QSL cards with a Morse theme



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