Flying the flag for Morse

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The Morse Magazine

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

ON OUR FRONT COVER
Key fitted by Redifon Limited with their installations. Internally, there is a very strong family resemblance to the Marconi Type 365 series of keys, although the case is completely different. This key was also supplied with a send-receive toggle switch.

Photo/Collection: Wyn Davies

Closure of MM

WE REGRET TO ANNOUNCE that *MM* will cease publication at the end of this year. However, if anyone is interested in taking over and continuing publication of the magazine we would be happy to discuss that possibility with them.

We are aware that many readers will be greatly disappointed by this announcement, which is the result of several factors, including the advent of retirement age and our wish to have more time for other activities; a degree of ill health; and a general desire to lessen the pressures of publication timetables. Unless another publisher can be found, therefore, the last issue of *MM* will be Nr 61, Christmas 1998.

We have more than enough material in hand for the last five issues so, regretfully, some articles which are awaiting publication will not be published. In due course, we will contact contributors whose work we cannot use. Also, we are unable to accept any more articles for publication in *MM*, or any more photographs for 'Info Please?' or 'Showcase' – although we will continue to welcome readers' letters or news items.

Subscribers whose subscriptions expire with this issue, or with any of the next four issues, will be invited to renew by paying a smaller sum corresponding to the number of issues remaining to be published.

Some subscribers have paid for issues due to be published after MM61. If necessary, refunds will be made, but to minimise the administrative work involved, these subscribers will be invited to consider using their outstanding balances to purchase back-issues of *MM*, a copy of the forthcoming *Best of MM – 2* reprint, or other publications available from the MM Bookshelf. As soon as possible, we will send each subscriber affected a statement of their outstanding balance together with optional suggestions as to how that balance might be used.

The decision to cease publication has not been made lightly as we are well aware of the role played by *MM* in 'Flying the Flag for Morse' at a time when both professional and amateur Morse telegraphy has been under pressure and attack.

This role has only been possible through the support and assistance of our loyal readers and contributors, and we will share their sense of loss if it is not possible to find a new publisher, and *MM* finally closes at the end of this year.

Further information on the situation will be published in *MM* as and when it becomes available.

Geoff Arnold
Editor

Tony Smith
Consultant Editor

News

UK Farewell to 500kHz

The final MF transmissions from GPK, GKR, GCC and GLD were made as midnight approached on 31 December 1997, marking an emotional end to the 500kHz distress watch and to all medium frequency commercial Morse services from UK coast stations.

At 2349 UTC, Portpatrick Radio GPK was the first to sign off, as follows: CQ CQ de GPK GPK. At 31.2359 UTC Portpatrick Radio/GPK will end the H24H 500kHz distress watch after 76 years. In 1844 QTC nr 1 fm Samuel Morse was "What hath God wrought?". All R/Os now ken the answer to this. NW 73 73 / Slainte to all R/Os, past and present = farewell. AR de GPK GPK VA

Wick Radio/GKR followed: CQ CQ CQ de GKR GKR GKR. After almost 90 years serving seafarers this is the final w/t broadcast from Wick Radio. For the few of us who are left it is with feelings of pride and nostalgia we remember friends and colleagues at sea and ashore and the service was rendered particularly to the then mighty distant water fishing fleet. Technology however marches on and as we find ourselves and our service consigned if not to the museum then certainly to the pages of history. All that remains ... [at this point a strong TFC broadcast from IAR(!) rendered copy impossible] ... best wishes for 1998 and 73s to any who are left on the sea with the ability to read this ...

Then Cullercoats/GCC:
CQ CQ CQ de GCC GCC GCC. Here is the last w/t transmission from GCC. A fond farewell from Geordy-land. Sent with a sad and shaking hand. For many years with signs we spoke and now it all goes up in smoke. So thanks and all the very best as GCC is laid to rest. De GCC/GND 010000Z AR AR BB de GND
(GND is Stonehavenradio, a satellite of GCC. – Ed.)

Finally, at approx. 0017 UTC:
GLD de GCC. Over to you and best wishes to u and all listeners AR VA. de GLD R mni tks.
CQ CQ de GLD GLD. This is the final w/t transmission from Lands End Radio. Since 1901 GLD has listened continuously on 500kHz and is proud to have assisted many ships in distress both in peacetime and in war. But now the time has come, ours is not to reason why, the satellites are calling, our Morse transmitters die. Marconi if you can hear us we salute you. de GLD
31/12/97 2359Z AR AR de GLD

The above messages were taped and copied by Chris Rees G3TUX. He says "My tape ran out at about 0030Z when GLD was still acknowledging calls from other watchkeepers. Callsigns logged included EAC, EAS, EJK, EJM, IAR, OST, OXZ, SAA, SPA, SPE and VCM.

Thus another era comes to an end. The Morse was all hand sent and frequently showed the emotion of the occasion."

MM reader Roy Clayton, G4SSH, RSGB Chief Morse Examiner, reports that the final messages continued until 0100. Roy received many requests for background information from newspapers, radio stations, and TV, including BBC TV *News 24* which filmed in his shack, and subsequently relayed the item on BBC World Service TV. He was also interviewed on-air by BBC Radio York and BBC Radio Wiltshire. In all his interviews, Roy was at pains to stress that Morse would not be allowed to die, but would now pass into the safe custody of amateur radio enthusiasts.

Another *MM* reader, George Allan, GM4HYF, Secretary of the Morse Enthusiasts Group Scotland (MEGS) and RSGB Morse Practice Service Co-ordinator, was also interviewed on the subject by *The Scotsman*, by BBC Radio 4, and by Radio Australia, again stressing the continuation of Morse within the amateur field.

The event was reported by many newspapers in Britain, and no doubt elsewhere. Ironically, on the last day of the UK distress watch, the 13 000 tonne MV *Oak*, en route from Canada to Liverpool, sent out a Morse SOS when its cargo of wood shifted in gale force winds and it lost engine power, resulting in the 26-man crew reportedly abandoning ship.

Despite the best efforts of those consulted, most of the papers mistakenly reported the closure of the UK MF services as marking the end of maritime Morse world-wide, although the UK stations are, in fact, continuing HF Morse services as previously. In this connection, Roy Clayton comments "… most of the media decided there was more impact in a story that reported all Morse as ceasing to exist on 31st January, rather than the truth."

(Our thanks to those readers who sent MM *a range of newspaper cuttings reporting the end of the UK 500kHz distress watch. – Ed.)*

Contents

Adverts

MEGS S.F.B. Morse
Birthday Celebrations
1998

The annual get-together of the Morse Enthusiasts Group Scotland takes the form of a celebratory party on April 27, birthday of Samuel F.B. Morse, to which all Morse enthusiasts are invited whether MEGS members or not. Rallies apart, this is the only time members of this club-on-the-air meet for a face-to-face chat, bringing their favourite key or keyer to participate in the celebrations.

The 1998 Special Event Station callsign is again GB4SAM, and this can be monitored on 3.530MHz, on the hour from 10 a.m., for details of the bands in use. On-air activities planned during the day include a QRS and a QRP run.

The Stirling and District Amateur Radio Society has kindly agreed to host the party at their magnificent mid-Scotland shack at Unit 68, Bandeath Industrial Estate, Throsk, a few miles south-east of Stirling.

For further details, or information about MEGS, contact the MEGS Hon Secretary, George Allan GM4HYF, 22 Tynwald Avenue, High Burnside, Rutherglen, Glasgow G73 4RN.

(Information from Macdonald T. Black, GM0PIV, MEGS Publicity Officer)

Verbal Morse

Radio operators of the Southern Sudan Peoples Liberation Army (SPLA) fighting the government of Sudan use verbal Morse code via SSB radio for their communications, using both upper and lower sidebands on the amateur 40m band. In a recording of this unusual form of communication received by *MM* recently, operators can be heard speaking in English and in local languages with large sections of the messages sent as spoken dits and dahs, some of which can be read quite easily.

It is intriguing to speculate why verbal Morse is used over a system intended for speech communication. Presumably it is used as some measure of security since it would be unreadable to casual listeners such as patrolling soldiers with radios. However, it would be quite readable to anyone who knows Morse, particularly if they are familiar with this form of transmission.

Why, anyway, is the code sent this way? Perhaps there is simply a shortage of Morse keys? Allied with this is the fact that many SPLA radios are believed to have been looted from UN or voluntary aid agencies, and these would not have had keys as they are intended only for radiotelephony.

The verbal Morse system is believed to have originated in China and it is surmised that Chinese instructors may have taught the system to the SPLA when it was active in Ethiopia during Mengistu Haile Mariam's regime. If any readers have further information about the origin and use of verbal Morse, and why it is used in the Sudan or elsewhere, please contact *MM*.

(Our thanks to Ted Alleyne, 5Z4NU, who made the recording while monitoring the amateur bands for intruders, and to Roger Gould-King, ZS6QL, for sending the tape to MM. Ted and Roger are National IARU Monitoring Service Coordinators, Kenya and South Africa respectively.)

Interference Silences South African CW Beacon

The following news item was transmitted on the South African Radio League's news broadcast on Sunday, 11 January 1998:

'Until further notice, ZS6FOR beacon operated by ZS6QL, has been silenced because of interference from missionaries licensed by Tanzania to operate on 7.028MHz and other frequencies. Until these unauthorised user issues are resolved, ZS6FOR will remain silent.'

WRC Amateur Morse Test Review – Further Delays?

In a report on 'Amateur Radio and WRC-97', in *RadCom*, journal of the Radio Society of Great Britain, February 1998, Tim Hughes G3GVV refers to a growing feeling that the present two-year intervals between ITU World Radio Conferences (WRCs) should be extended to three years. If this happens, 'WRC-99' will be held in the year 2000, and 'WRC-01' will possibly be held in 2003.

A provisional item on the agenda for WRC-01 is a review of Article S25 of the international radio regulations which contains the regulations specific to the Amateur and Amateur Satellite Services, including the Morse code requirement for operation below 30MHz.

New Morse Training Book

A new book, *Morse Code: Breaking the Barrier*, by Dave Finley, N1IRZ, is based on the 1936 research of Ludwig Koch, a German psychologist who claimed to have trained students to copy at 12 words per minute in as little as 13.5 hours.

According to the press release re-ceived by *MM*, the book also includes chapters on 'sending code with keys, bugs and keyers; on making your first CW QSOs; and on a variety of on-the-air activities where CW can make your hamming more fun.'

Morse Code: Breaking the Barrier (MFJ-3400) is available for US $14.95 plus shipping from MFJ Enterprises, Inc., PO Box 494, Mississippi State, MS 39762, (800) 647-1800, FAX (601) 323-6551, or from MFJ dealers.

For more information about the book, visit the author's web site at http://www.sdc.org/~finley

(An article on Koch's work will be appearing soon in MM. *– Ed.)*

Telegraph Demo at AP Celebrations

On Wednesday, 21 January 1998, former Associated Press telegrapher (and *MM* reader) Aubrey Keel, age 96, gave a demonstration of his skills during the AP's 150th anniversary celebrations at The Freedom Forum's Newseum, a museum in the Washington suburb of Arlington, VA.

He was a guest of honour at a formal celebration dinner, attended by AP Board members and US Vice President Al Gore, when he demonstrated a telegraph set up for the event, issuing a news bulletin on the Pope's arrival in Cuba on Wednesday.

Aubrey finished his demonstration by commenting that if the AP computers were not compliant when the year 2000 arrived, and crashed, he would be standing by on New Year's Eve, 31 December 1999 with his trusty telegraph key and sounder!

He later received the following message of appreciation:

'Dear Aubrey,

Thank you for making the AP evening so special last Wednesday night with your demonstration of telegraphy.

You got a louder round of applause than the Vice President Al Gore did. And your line about being available to help in case of Year-2000 problems brought the house down.

It was a treat and pleasure to meet you.

Please stay in touch.

Sincerely,

John Reid, AP Director of Communications and Technology.'

(Aubrey described his experiences as an AP telegrapher in MM32, p.6. – Ed.)

Museums of Interest

The Porthcurno Museum of Submarine Telegraphy, near Penzance, Cornwall is currently undergoing extensive alterations and will not reopen until approximately mid-May. Prospective visitors should telephone the Hon. Curator, John Packer on 01736 367088 to confirm that the museum has been reopened before making arrangements to visit Porthcurno. John advises us that if he is free at the time, it may be possible for *MM* readers to have a 'personalised' tour with more technical input than is available to casual visitors.

(Information from John Packer)

The 'Museum 1939-1945' in Uithuizen, in the north of Holland, is concerned with the history of WWII. Covering many aspects of the war, the collection includes a range of telecommunications equipment from many countries on both sides of the conflict.

The museum is open from 1 April to 1 October, daily from 0900 to 1800 hours. Address: Museum 1939-1945, Dingeweg 1, 9981 NC Uithuizen, Holland. Tel/Fax: 0595-434100. E-mail: Mus39-45@tref.nl

(Information from Monika Pouw-Arnold PA3FBF).

More Sites of Interest on the Internet

Of interest to readers with internet access, a rare 19th century handbook, *The Modern Practice of the Electric Telegraph*, 11th edition, 1881, by Frank L. Pope, is reproduced in its entirety (including the original fine quality illustrations) on http://sd.znet.com/~cdk14568/mpet/contents.html

An abridged version of the 1923 Phillips Code, prepared and presented by Ken Miller VE7CTW, can be found on Robert Burnet's Canadian Telegraph Website http://web.idirect.com/~rburnet/

Ken is republishing the 1923 Phillips Code book in its entirety in booklet form, and *MM* will provide further details as they become available. In the meantime, inquiries about availability should be made directly to Ken at: kmiller@wimsey.com

A new EastComm homepage at http://www.cqcqcq.com/vibrople.html contains details and illustrations of Vibroplex products, including prices in sterling.

EastComm, Cavendish House, Happisburgh, Norfolk NR12 0RU, are European distributors for Vibroplex. In

the interest of key provenance for the future, they provide numbered ownership certificates with all keys purchased from them, and maintain an ownership log. Call 01692 650077 for more information.

The full text of Bill Pierpont's book *The Art & Skill of Radio-Telegraphy* (extracts from which appear in *MM* from time to time) is now available on the

MEGS (Morse Enthusiasts Group Scotland) homepage:
http://www.joates.demon.co.uk/megs/
The text of this book can also be found in Jim Farrior's Morse program *The Mill* (see MM52, p.9.)

There are links to all these sites, and to many more of Morse interest on the *MM* homepage at:
http://www.morsum.demon.co.uk

Bookshelf

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

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

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Wireless for the Warrior – Volume 2
by Louis Meulstee

This long-awaited book is here at last. It covers in details the sets which were summarised in Volume 1 – WS Nos. 10, 18, 19, 22, 29, 31, 38, 42, 46, 48, 52, 53, 62, 68 and 88, including AFV versions.

Published in hardback, it comprises 722 A4 pages, and contains approximately 200 photographs, 750 line drawings and 180 data tables.

Comprehensive information on vehicle installations is included where appropriate, giving the book considerable appeal to military vehicle enthusiasts, as well as awakening memories of those who maintained or used the sets 'in anger'.

See below for prices, etc.

MAKE ALL CHEQUES, ETC., PAYABLE TO G C ARNOLD PARTNERS

The Story of the Key by Louise Ramsey Moreau *(MM38)* .... £3.95 (UK): £4.25 (Eur/Sur)

Sparks Around the Bridge by Harry C. Hutson *(RB44)* .... £8.85 (UK): £10.00 (Eur/Sur)

Watchers of the Waves by Brian Faulkner *(MM47)* .... £13.50 (UK): £14.20 (Eur/Sur)

Wake of the Wirelessman by B. J. Clemons *(RB41)* .... £12.95 (UK): £13.75 (Eur/Sur)

"Q41" and Beyond – The Story of a Wren Telegraphist by Shirley Lawson *(MM49)* .... £5.70 (UK): £6.10 (Eur/Sur)

Gentlemen on Imperial Service by R. Bruce Scott *(MM45)* .... £8.75 (UK): £9.25 (Eur/Sur)

Wires, Wheels and Wings by Harry G. Reddin *(MM42)* .... £19.25 (UK): £20.00 (Eur/Sur)

Traeger, the pedal radio man by Fred McKay .... £9.45 (UK): £9.75 (Eur/Sur)

Transmitters, Exciters & Power Amplifiers by Raymond S. Moore .... £16.00 (UK): £16.85 (Eur/Sur)

The RACAL Handbook by Rinus Jansen .... £13.00 (UK): £13.75 (Eur/Sur)

Wireless for the Warrior – Volume 1 (WS1 – WS88) by Louis Meulstee *(RB38)* .... £27.75 (UK): £28.65 (Eur/Sur)

Early Radio – in Marconi's Footsteps by Peter R. Jensen *(RB34)* .... £28.25 (UK): £29.10 (Eur/Sur)

Radio! Radio! (3rd Edn) by Jonathan Hill *(RB45)* .... £37.50 (UK): £38.50 (Eur/Sur)

Comprehensive Radio Valve Guides, in five books:

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Wireless for the Warrior – Volume 2 by Louis Meulstee .... £ 39.50(UK): £41.00 (Eur/Sur)
Because of the weight and value of this book, we recommend airmail despatch to addresses outside Europe. We cannot guarantee safe delivery by surface mail. Total airmail prices are as follows:
Zone 1 (Africa, the Americas*, Middle East, India and Malaysia) £51.50
Zone 2 (Australia, New Zealand, Pacific Islands, China, Japan and Korea) £54.50
* **Wireless for the Warrior – Volume 2** exceeds the maximum weight for postal services to Canada. Orders for that country will therefore be sent by air parcel post, at a total price of £55.50 per copy.

═══ *Credit card orders welcome by phone or fax on 01202 658474* ═══

Radio Operating in Papua New Guinea

Mid 1950s to mid 1960s

Part 1

by Allan Moore VK1AL

AFTER SIX YEARS with the Australian Post Master General's Department (PMG), as a telegraphist in Melbourne, I resigned in 1961 to accept a position as Communications Officer with the Department of Territories which administered Papua New Guinea (PNG) as a Trust Territory prior to its independence in 1975. I had been a landline (sounder) telegraphist during my relatively short career and now hoped to become a CW radio operator.

Later, in Port Moresby, I was to meet Rob Gurr (VK5RG, and also from the PMG) who was Senior Radio Inspector – (Acting Inspector Telecommunications) – who served in PNG from 1958 to 1962. He had served as a Radio Supervisor at the Australian Antarctic Station at Macquarie Island in 1952, and by good fortune I was later selected to serve as a radio operator to winter at Mawson Base – in 1963 and 1965. (See MM36).

Rob kindly agreed when asked recently, to collaborate and help me write this article on radio operating, the equipment used, and other hopefully interesting matters that occurred in Papua New Guinea in the late 1950s to early 1960s. Rob is very well qualified in technical matters and an operator in his own right.

Another old friend who served in the Territory was Jack Quealy, a telegraphist seconded from the Brisbane Chief Telegraph Office. He served as a radio officer in PNG in 1955 when the radio telegraph service was starting to expand, and later from 1961 to 1969. His contribution is included elsewhere in this article. He is a great operator and is regarded as one of the 'Top Guns' of Australian telegraphists by his many contemporaries.

His rapid departure to the Territory on one occasion was influenced by his Brisbane Telegraph Superintendent's plan to post him as a telegraphist to an isolated outback Queensland country town for three years. This was the penalty that many single men paid in those days, and precipitated quite a few hasty marriages to avoid such tours of unwanted duty.

Interview and Tests

In the latter part of 1960 I was interviewed in Melbourne along with other aspirants for one of the vacancies; and

apart from numerous questions relating to suitability in adapting to a difficult environment, I was given a Morse test through an oscillator and headphones.

I did not own a short-wave radio in those days and had no experience in copying radio Morse (CW). Asked by the examiner how long was it since I had received or sent Morse, I said I had been working on a circuit shortly before coming to the interview. With that, the receiving test which I judge was at about 23 or 24 words per minute, began.

I made a few mistakes but felt that the text was copied reasonably well. Perhaps it wasn't – as six months elapsed before an offer to fill a vacancy in Port Moresby materialised. I jumped at the opportunity and prepared to depart a month later, arriving just before my twenty-third birthday.

To New Guinea by Air

Pre-departure arrangements were easy. A tax clearance from the Australian Tax Office, a Permit to enter the country from the Department of Territories, one suitcase and my Morse Jigger (bug) carefully wrapped in a towel, ready for work. The jigger was an Australian Simplex Auto, made by Leo Cohen of Melbourne, which I loaned years later to a friend who served in the Antarctic, and who unfortunately left it at one of the bases.

Armed with five pounds in cash, I flew from Melbourne to Sydney on a Vickers Viscount, and after a half a day's wait, boarded a Trans Australian Airline Douglas DC6-B aircraft. This flew direct to Port Moresby apart from one stop at Brisbane.

The old plane groaned on through the night, four propellers spinning and exhaust manifolds red hot. After an uneventful 1700-mile trip the packed aircraft made its approach into Port Moresby at sunrise – about 6 a.m. the following morning.

Arrival – Unfamiliar Sights and Aromas

The plane landed at Jackson's Airfield which was surrounded by eucalyptus (gum) trees similar to those in Melbourne, but the leaves were twice as big. There was an unfamiliar aroma of tropical vegetation and trees in the air, and it was hotting up for the day.

I was driven to what would be home for the next few months – a construction depot located at Four Mile camp just outside of Port Moresby. After a shower and a few hours sleep, I reported to the Post and Telegraph Office to be introduced, and commence induction procedures.

The Old Port Moresby Telegraph Office

The Telegraph Office was located in an old white, non-airconditioned two-storey building overlooking the beautiful harbour, the scene of many actions during the Second World War. The town at the time was small, with few modern buildings. The rusting hulk of the old freighter *MacDuie* was laying partly on her side near the centre of the harbour. (She was fleeing from the fire from Japanese aircraft when hit during the 1940s).

The first day at work is always difficult, particularly in an environment as new and strange as this – and as I walked

up the wooden staircase in the tropical heat to the first floor of my new office, the burbling of several CW transmissions could be heard – and they were fast.

Orientation

The office was small and oblong with five or six operating positions hosting single-case typewriters, earphones, knobs to change volume on the receivers, and a conventional hand key screwed to the table top. I learned that the receiving equipment and aerials were located on Paga Hill, high above but near Port Moresby. Operators had to telephone the receiving station for frequency changes, and receiver adjustments.

The Port Moresby callsign was VL8BM and being unfamiliar with the 'Q' Code or any real radio calling procedure I was in for a bit of 'fun' and some anxiety. Our operational Radio Supervisor was an Australian, Geoff Williamson, who was also an active amateur in the region. He was a superb Morseman and owned an electronic keyer, the first I had ever seen.

He demonstrated a rack-mounted Eddystone 680X communications receiver which was used for monitoring purposes. Geoff tuned in to some of the stations I would soon work, and the magical wartime names of Rabaul, Samarai, Madang, Lae and Wewak, among others, would become familiar to me in a very short time.

Circuits

The High Frequency (HF) CW circuits that existed at the time were:
Port Moresby/Rabaul

Lae/Madang
Rabaul/Lorengau (Manus Island)
Port Moresby/Madang
Lae/Goroka
Rabaul/Kavieng (New Ireland)
Port Moresby/Samarai
Lae/Mount Hagen
Rabaul/Sohano (Bougainville)
Port Moresby/Daru
Lae/Wewak.

Approximate distances between the various radio stations, in miles were:
Port Moresby to: Rabaul (500), Madang (300), Daru (250), Samarai (250), Lae (200), Hollandia (Netherlands East Indies) (675), Sydney (1700).
Rabaul to: Kavieng (150), Lorengau (375), Sohano (200), Sydney (1700).
Lae to: Wewak (300), Madang (130).

(Jack Quealy said that in 1955 he remembered only three HF CW circuits operating from Port Moresby – those were to Lae/Popondella, Rabaul/Samarai, and Madang/Wewak.)

Port Moresby is located in Papua, Lae in New Guinea and Rabaul in New Britain The three main control stations were Port Moresby, Lae and Rabaul. Port Moresby to Lae was served by radio teletype which is mentioned later in this article.

The map will give an indication of where Papua New Guinea lies in relation to Australia and its beehive network of CW circuits in the 50s and 60s.

Low-power Outstations

Although not as lengthy as many circuits in other countries, we had to contend with interference from tropical storms, simple antenna systems, and in many cases low-powered transmitters
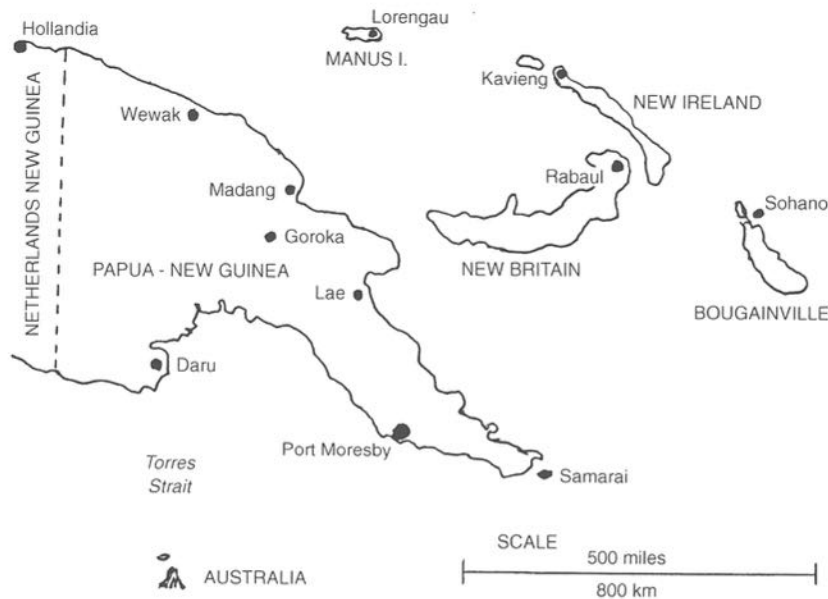
Map showing where Papua New Guinea lies in relation to Australia and the location of the various radio stations in the 1950s/60s described in this article

and receivers which were less selective than those available today.

The twelve PNG towns mentioned above were also zone centres for HF AM radio voice message handling. During the day (in Port Moresby for example) two female telephonists with a great deal of skill and patience, controlled the voice-radio network on a two-frequency simplex basis, using frequencies in the 5 to 7MHz. bands.

These contacts with lower power outstations were the backbone of the inland communications system, providing telegram and, if traffic loading permitted, telephone contact with other territory centres, and other countries via the Overseas Telecommunications Commission (OTC).

Most outstations with circuits to the 'Zone Centres' had Command sets – AWA, EILCO, CODAN and similar 25-watt AM transceivers. One little outstation of many that I remember being worked on voice was Popondetta.

Many smaller outstations were under the control of District Commissioners or Officers in charge of activities for the area concerned. These included Health, Native Affairs, Education, Posts and Telegraphs, Customs and so forth. Some Australian Commonwealth Departments were also represented in certain areas such as Department of Civil Aviation (DCA), Military contingents, and so on.

Initial Problems

Several other young Australian operators worked in the office, mostly

from the PMG. Recruited like me, they admitted having some initial trouble in adjusting to the new operating mode – but I judged that they were now very good CW operators.

There were several young Papuan trainees operating CW circuits, and they were transmitting on conventional hand keys. The first combined circuit I worked was to Daru in Western Papua on the Fly River, and the Island of Samarai at the Eastern end of Papua. The three stations used the same frequency and the Port Moresby dipoles, naturally, were bi-directional.

The Daru operator was a Papuan named George (or Nelson) Tokidoro who was one of the fastest 'bug' senders I've ever worked. Unfortunately the transmitter at Daru was of low power, probably an AWA AMT 150 (the Australian-made war time AT5/AR8 configuration made for Beaufort bombers and operating at about 50–100 watts); and occasionally, when I broke him, he would become a bit excited.

The Samarai operator was Allan, an Australian – VL8AS – and his signal was much stronger. He was a good operator and could give as hard as he got. As part of my initial training I worked on this circuit for a few weeks until I got over some early and predictable, difficulties. When not fully occupied on this duplex circuit I helped with other duties or handled traffic on other circuits.

You'll be OK Now

A slightly busier CW circuit was Port Moresby to Madang on the Northern side of the great Island. Signals were nearly always good on this circuit and I don't remember having any real difficulties. But my High Noon had come at last – I had to work on the busiest CW circuit in the office – Moresby to Rabaul – and 'face' the famous New Britain operator, Amos Tamti, some five hundred miles away.

Amos, from the Tolai Race, had a formidable reputation. He was a very fast 'bug' sender and could receive equally well. He showed no mercy to newcomers, particularly those from down 'South', although I met men who knew him personally and held him in very high regard.

He had a peculiar style of sending – very short spaces between letters – and it took many days of frustration on his, and my part before I could satisfactorily handle the circuit – and Amos at VL8BR.

Now nearly 34 years later, I have just learned from Rob Gurr that Amos was trained in Australia during the war, in English, and was taught Morse Code. He became a Coast Watcher and was considered a highly competent operator. Reference to him is made in some of the Coast Watcher history.

My happiest moment occurred one afternoon when I was leaning back in the chair, earphones on and typing numerous telegraph messages from Amos. My thoughts were miles away and I did not realise I was having no problem reading him, and had not broken him for a long period. My supervisor, Geoff, said at the end of the sked with a grin – "Well, you've finally mastered Amos. You'll be okay now".

To be continued

ONE OF THE MOST FAMOUS dirigibles, or 'lighter-than-air' rigid airships was the *Graf Zeppelin* named after the German designer, Count Zeppelin ('Graf' being 'Count' in German).

The airship was actually a 'transoceanic luxury liner of the skies', complete with accommodation for twenty elite passengers, and was equipped with the best of china, linens and silverware for serving its sumptuous meals – even a grand piano was aboard for entertainment. The crew numbered 41.

The *Graf* (callsign DENNE) made numerous historic trips to South America, Africa, and even to the North Pole. But the most noteworthy was its trip around the world in 1929. On its voyage across the Pacific from Tokyo to the USA, I was the ground communicator at RCA in San Francisco. Shown below is an actual undulator ink recording of DENNE's CW signals I made at 1236 a.m. PST, 24 August 1929 (press message).

The famous US stamps issued honouring the *Graf* are shown in replica. Incidentally in the philatelic world today *(written 1979. – Ed.)* they sell for well over $6500 a set! *MM*

'DENNE'
Graf Zeppelin Calling
by Don deNeuf WA1SPM (SK)

Graf Zeppelin
commemorative stamps
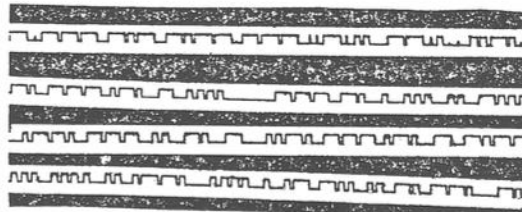
Undulator recording of press message
from the Graf Zeppelin

Two QSOs

by Dr Gary Bold ZL1AN

A FEW NIGHTS BACK, Ian, ZL1UI was checking out a second-hand QRP Chelmsford transceiver he'd just got going. I met up with him on the bottom end of 80m. Living only a few km away, he was putting a fine signal into my QTH, even with 2 watts.

As appropriate to such a simple, no-nonsense device, Ian was thumping away with his trusty Admiralty Pattern key, and I joined him, using my venerable ZC1 key, with the TS520/s wound appropriately down to QRP power. We thumped away together for 15 minutes at about 15 wpm. A most enjoyable hand-key QSO. I reflected that maybe I should use the pump-handle more often.

Decoding 100 Percent

A few nights further on, I had just finished a QRQ keyboard QSO with Bill, ZL2BO. I was immediately called by a strong, fast station I hadn't worked before, and who has asked to remain anonymous. The reason – he was using an MFJ data interface, sending on a computer keyboard, and only reading me on the computer.

However, the band was good, and my 30 wpm Morse was decoding 100 percent on his screen. Since I was also sending with a computer, and computers can read each others' Morse really well in good conditions, this wasn't too surprising.

I was interested to check out his MFJ machine's reading performance, so I went up to 45 wpm – about as fast as my untutored typing skills allow – and this also decoded perfectly on his screen (most commercial decoders can read at least 60 wpm). I stayed at this speed, and he ended up talking to me at about 38 wpm.

We had a most enlightening rag-chew discussing, amongst other things, the PACTOR capability of his interface. I learnt a lot. You can get a lot said when you're both typing that fast.

Opposite Ends

Now these two QSOs were at opposite ends of the speed spectrum, but I enjoyed them both equally. The second op was sensitive to the fact that 'real

CW' purists are supposed to disapprove of people who undertake QSOs using computers to read at higher speeds than they can copy in their head. He was a CW operator, but said that his QSOs were usually conducted at 15 wpm with a hand key, and he couldn't, himself, copy much faster than that.

Well, I am not a purist. I just enjoy CW. I'll conduct CW QSOs with anyone sending to or reading me with any device at all, just for the pleasure of it. And I love reading the beautiful, clear fast Morse that comes out of computers, which decodes so effortlessly in my head! (It's the slow, character and word runners-together that give me trouble. It's surprising how many people start sending to me faster than their hands can manage).

I told this op that having computer-aided QSOs like this would also improve his own reading speed. Seeing the Morse decoding on the screen at the same time as you hear it with your ears provides immediate, positive reinforcement of the sounds. At 45 wpm, the mind has to hear whole characters. It is excellent practice!

Tip for the Test

Bill, ZL2AVL, wrote recently: 'When we did our Morse training in the Navy, aeons ago, every morning our instructor made us stand for a few minutes, arms hanging loosely, and giving the hands and wrists a good shake. This certainly loosened them up!'

I haven't heard of other Morse teachers advocating this, but it's certainly a good idea. One of the problems I often see as a Morse tester is that when applicants sit down and grasp the key for the sending test their first attempts are pretty jittery – even when they are using their own keys, with which they have practised.

After the stress of writing the receiving test, their fingers and arms have become tense and tight. When this happens, I tell them to send some practice material. I then wander off for a few minutes so they can tune their arms up without the menacing presence of the Testing Officer.

When I come back, the Morse has usually improved markedly. In future I'll advocate a preliminary wrist-shaking session.

This is true for keyer sending too. I know that if I sit down at the paddle cold, it takes a few minutes for my sending error rate to drop to what I consider acceptable. If I rip off a couple of 'quick brown fox' sentences, off-air, and run through the numbers forwards and backwards first, my QSO goes much better.

Thought for the Month

When talking to an operator you haven't contacted before, in each over:
• Say one interesting thing about yourself, your job, your equipment, your other hobbies;
• Ask one question about the other operator's ditto.
It's astonishing how interesting conversations often bloom when you follow this simple routine.

(Extracted and edited for MM *from various issues of Gary Bold's 'The Morseman' column, in* Break-In, *journal of NZART)*

IN MY EARLY YOUTH, I greatly admired the achievements of Thomas A. Edison as telegraph operator and experimenter and decided to follow his example. In the old days, however, our present scientific methods of instruction were not available, so I became a 'ham operator' by hanging around railroad telegraph offices, exchanging my services for the chance to learn.

At the age of seventeen, between terms at a school of technology, I landed my first job as a railroad telegrapher, handling a night trick on a slow line. I

Learn
While you Sleep

by J.N. Phinney
Chief Radioman, US Navy

In the December 1911 issue, Mr H. Gernsback, then Editor of *Modern Electrics*, in his story 'Ralph 124 C 41 +', described the 'Hypnobioscope', an instrument to teach and impart knowledge to a sleeping individual.

In the December 1921 issue, Mr Gernsback in *Science and Invention* again brought the matter to life, but treated the subject somewhat differently.

While fantastic at the time of writing, the two articles proved prophetic as will be seen from the fulfilment of the invention (as described) in Mr Phinney's article.

was quickly forced to conclude that I could not hold down the job unless I increased my speed at once in some miraculous manner. I was desperate. I deliberately slept alongside the main line relay, which was always clattering away much faster than I could copy.

In a surprisingly short time I was able to read the fastest operator on the main line. The miracle had occurred: somehow I had learned while I slept.

Contact with many operators in after years has convinced me that a large percentage of the best of them have acquired their speed in the same manner – nature's miraculous method, accidentally rather than scientifically applied as in the device so well conceived by H. Gernsback, the Editor of *Science and Invention*.

Subconscious on Guard

An SOS awakens the radio operator. His station call will arouse any railroad telegrapher. Subconscious mind calls the sleeping traveller when the bell boy falls down on the job. The drunkard escapes injury in miraculous ways when his active mind is completely befuddled and the sleep walker never comes to harm if not awakened. Psychology or what not, these things we all know are true.

I was again forced, in 1914, to apply my principles of subconscious learning to myself. I was radio operator at the Navy Radio Station, Jupiter Inlet, Florida. The cable broke between Nassau and the United States and all cablegrams had to be handled by radio. I was the only land wire operator and the excess traffic handled necessitated my working with a crack operator at Jacksonville whose

speed was too great for me. A few nights' sleep alongside an electrically driven automatic sending device fixed me right up …

Navy Experiment

About a year ago, twelve medical officers of the US Navy started our flight course (at the Navy Training School, Pensacola, Florida). They were to qualify as pilots, taking all ground school subjects, including the dreaded radio. One, who was a noted specialist in psychology, expressed a willingness to try my 'Learn While You Sleep' method, after I had explained my ideas.

I equipped his bedroom with a key and the regular aviation radio telephone headset … , and myself and assistants sent radio code to him all night. We started at 10.30 p.m. He copied with pencil about thirty minutes and then retired, dropping asleep about an hour later. He had acquired a speed of fifteen cipher groups per minute in class, but had never copied plain English words or sentences.

Awakens at Word 'Doctor'

One conclusive proof of the feasibility of the idea was to be gained by our ability to awaken him with a message. Look at the cipher group. It never had meant anything to him or any other person, being in fact purposely undecipherable.

B X 3 Z F

Even while awake, no-one had ever sent him a message by radio. His training had been copying letters only. How

A HUNDRED YEARS ago, telegraph operators along railroad landline circuits laughed in Santa Claus style, sending HO HO in American Morse code – a reasonable enough way to laugh in CW or voice.

In contrast, new hams today are advised to use HI to laugh – the logic of which is questionable on CW, and the use outlandish in a phone QSO. (Sounds like you're saying Hello at an inappropriate point in the conversation).

How in the World did HO HO Become HI HI?

The transition evolved as a malignant mutation during the conversion from landline's American Morse code to radio's International Morse code. One of the 11 letters that are different in American Morse from International Morse code is the O. American Morse code's O is two dits with a slight separation between them (dit-dit). The separation is more than that between the two dits of an I (didit), but less than the space between a couple if Es (dit dit).

Expressed phonetically, the differences between these three CW signals used after an H for RF laughter appear as follows:

An I: didit (HI)

Two Es: dit dit (HEE)

American Morse O: dit-dit (HO).

Half a century ago, give or take a decade or two, many radio operators – includ-

How do you Laugh on the Radio?

Little known CW history says it's 'HO', not 'HI'

by Steve McCallum K4URX

The books say you laugh in Morse code with HI. Wrong, wrong, wrong! Whoever first said HI is the way to laugh with a key didn't do his CW homework. Let's go over this bit of Morse code history

ing many hams – still expressed their CW laughter in American Morse code's HO HO. Others substituted HEE HEE.

HEE HEE in International and HO HO in American Morse code sound pretty much alike. And both have a pleasant CW swing, a rhythm appropriately expressing hearty laughter. (Try it!)

It takes a practised ear to catch the difference between an American Morse code O (dit-dit) and an International I (didit) – especially for a younger generation operator who never learned, nor perhaps even heard of American Morse code's two-dit O.

On the air he heard what to him must have sounded like a slow I (dit-dit). Thus new CW operators began to laugh with HI HI, instead of the American HO HO or the Internationalised version,

HEE HEE. The pleasant rhythm began to fade – although you'll still hear old-timers laughing HEE HEE and HO HO.

Unfortunately, somewhere along the line, writers and editors ignorant of this delicate bit of CW history (probably phone people!) took it upon themselves to define HI in print as the official way to laugh in CW. This travesty now has spread throughout the literature. Classroom instructors, following certain texts, erroneously teach HI to hundreds of unsuspecting Novices.

The staccato HI HI in CW makes a jerky and awkward signal – somewhat akin to laughing with your mouth closed!

– not nearly as rhythmically pleasing as HEE HEE. And saying HI to express glee in a phone QSO is a downright abomination. Better than HI, if you don't mind sounding a bit affected, is to chuckle verbally with Ho Ho or Hee Hee.

But face it, in a voice QSO the only truly appropriate way to laugh is to just open your mouth and let it come from the belly. Let's forget this HI nonsense and laugh with HEE HEE on CW and on phone with our larynx – as we were meant to.

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Learn While you Sleep

to make his subconscious mind group letters into a word and react to that word? They tried 'Please awaken', 'Get up', 'SOS' and all sorts of things, then hit upon 'Doctor!' and he roused like a charm and hit his key. Thereafter during the night he could be aroused and respond by key. In the morning he was able to copy radio with much greater ease … This convinced them all of the practicality of the method.

Subsequently with a new class of students a regular syllabus was begun. Seventeen students who were slipping

and would have had to drop out were offered this procedure and were accepted. After one night of being sent to by their instructors: one copied 5 words faster than before, four copied 3 words faster and one almost that fast, four were 2 words faster and another nearly that much, three did one word faster, and one did one-half a word faster – after just one night of such 'learning'.

When the instructors sent errors, or erratically, the sleepers grimaced and were restless or muttered. If they stopped sending the sleepers would arouse.
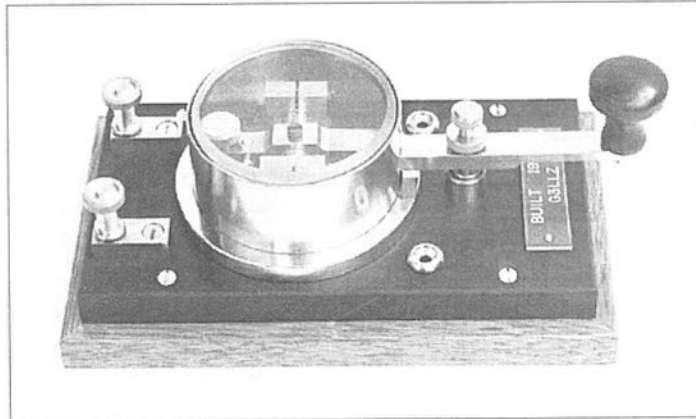
(Condensed from an article in Radio News, *October 1923.)*

Showcase

Dennis Goacher, G3LLZ, had long admired the old GPO Mk.I Morse keys with their ebonite bases and glass tops, but they are rare and usually expensive – so he decided to make one himself using a lathe and hand tools. As can be seen from the photograph, he has produced a striking looking key. As the cover is not glass, he calls it a 'clear top key'.

All metal parts are brass, except for a silver steel pivot bar, two ball races, and the compression spring. The clear cover is Lexan plastic, the base is ebonite, mounted on a mahogany plinth.

The total outlay was five pounds for materials plus one pound for the knob turned to Dennis's requirement by a wood turner at a craft fair. The total time taken for making the key was about 50 hours, with no single period exceeding two hours.

Dennis says, "I have a key of which I am proud to say 'I made it myself'. This is all the more satisfying as by training I am not a machinist. Maybe this will encourage others to have a go and show that making it yourself is possible and enjoyable."

Ironically, after Dennis completed the key, he found a glass-topped GPO Mk.I key in a junk shop and bought it for a price he thought very reasonable. He comments, "It just shows they are still about if you look for them – or are lucky!"

Dennis has written a four-page detailed description of how he made his clear top key. For any reader interested in making a similar key, copies of this description are available on request from Tony Smith, address inside front cover.

Photo: G3LLZ
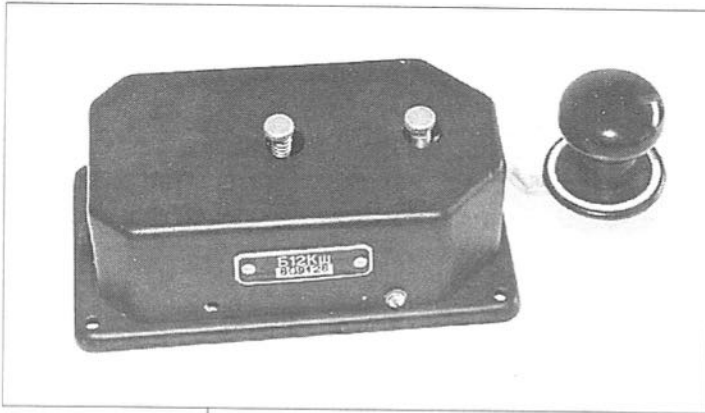
(ex) USSR Marine key, c.1950
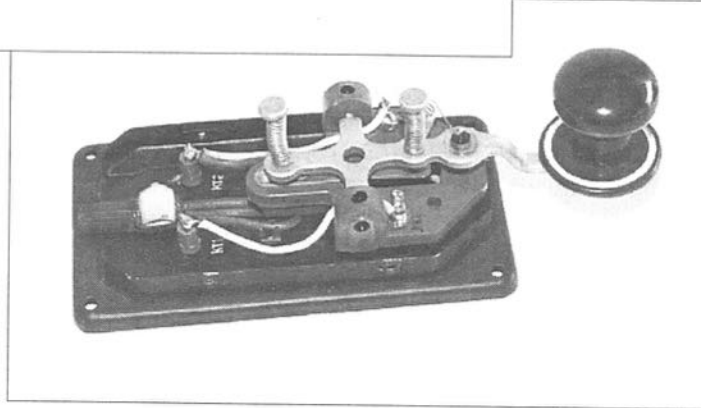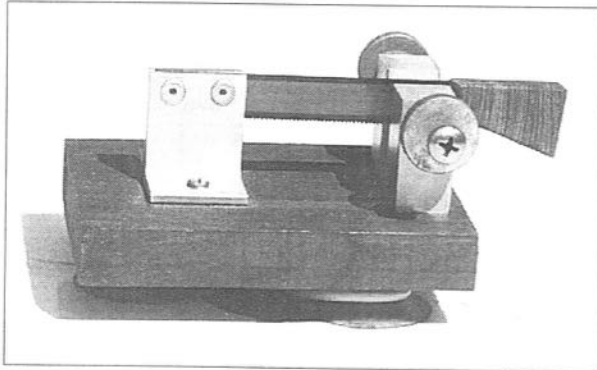
Side-swiper key made with hacksaw blade by Kungsimport Co. Sweden. Original price $13.00

Photo/Collection: Wyn Davies

Featuring keys and other collectors' items of telegraphic interest.
If anyone can add to the information given please contact
Tony Smith, 13 Morley Road. Sheringham, Norfolk NR26 8JE

THE FIRST TELEGRAM transmitted in Western Australia was sent on 21 June 1869 from Perth to Fremantle (a distance of 12 miles), addressed to Mr Edmund Stirling, one of the instigators of the first telegraph company in that Colony (The Western Australian Telegraph Company). The message read:

'To the Chairman of the Fremantle Town Trust. His Excellency Colonel Bruce heartily congratulates the inhabitants of Fremantle on this annihilation of distance between the Port and the Capital, and requests that this, the first message may be publicly known.

Government House,
Perth, 21 June 1869'

It was sent at 11 a.m. and the operator was J.C. Fleming (see **Fig. 1**).

For a long time there had been considerable dissatisfaction in the colony's commercial circles because of the slowness of communication between

A brief review of

Early Telegraphy in Western Australia

by Ted Jones G3EUE

Perth and Fremantle. Edmund Stirling, the owner of the town newspaper *The Inquirer & Commercial News* had made strong editorial references to the need for improved communication and had pressed the Government to permit the installation of a telegraph line between the two places.

James Fleming

It was fortuitous that one of his staff, James Fleming, had a considerable
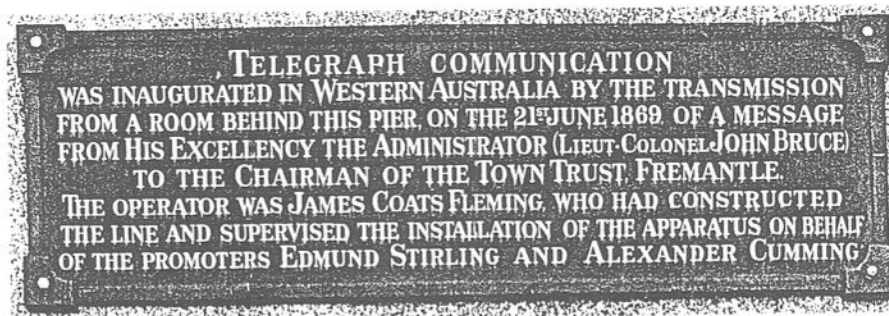
Fig. 1 - Plaque on western face of Perth Town Hall, commemorating the first message sent by telegraph in Western Australia

knowledge of the principles of telegraphy, including operating. Fleming arrived in Western Australia as convict No. 7688 under a seven-year sentence for fraud. He had been found guilty of selling a variety of imported goods including tea, some of which proved to be no more than blackened sawdust, and barrels of oil where only a small quantity floated on water. At his trial he refused to plead whilst the Crown produced 64 witnesses and a large quantity of incriminating paperwork.

He must have behaved himself whilst serving his sentence because he was granted 'ticket-of-leave' in 1865 which allowed him to seek work and live on his own, subject to regular reporting to the constabulary and a curfew. Within four years he became headmaster of an important boys' school and also had employment with the *Inquirer* newspaper.

Permission having been obtained to erect a telegraph line between Perth and Fremantle, Fleming was authorised to order the necessary equipment. An early newspaper report indicated that the original equipment had been obtained from Messrs Gordon & Gotch in Melbourne and comprised one of the Siemens Brothers instruments powered by a 'Smeeze' battery. Special permission had to be obtained for it to be imported into the colony duty-free. The original enterprise was owned privately by Stirling and his partner Alexander Cumming.

Convict Labour

A formal ceremony was made of the erection of the first telegraph pole, on 9 February 1869, near the junction of William Street and the jetty in Perth.

To celebrate this event the whole party repaired to the United Services Tavern where they drank to the toast of 'Success to WA Telegraphy' coupled with the names of the promoters.

On completion of the line, on June 21, the contractor who supplied the Jarrah poles was so highly regarded for the manner in which he had completed his contract that he was permitted to send the first private telegram to his old friend Joshua Harwood. That message and its reply took a bare 15 minutes which astounded the bystanders.

The company received active support from the Government in the form of convict labour who cleared the bush and dug the holes for the posts. The construction of the line claimed the life of one man who fell from the top of a bridge in North Fremantle whilst fixing an insulator.

Initial Lack of Support

The first Fremantle telegraph station was located in a building that was originally erected as the port's first Literary Institute on a block known as Ketts woodyard. The first operator there was William Holman, a sailor from the barque *Zephyr*, who only held the post for a few months, being succeeded by Horace Stirling.

He, with Edward Snook and Edward Semple, were Perth's first telegraph cadets. In anticipation of future development, cadets were employed in both Perth and Fremantle offices.

As seems frequently to be the case with far-reaching commercial developments there were numerous detractors of the new service, particularly from

those reluctant to entrust the secrets of their business enterprises or private affairs to the operators. During the first six months there were frequent periods when the operators had nothing to do.

The tariff was one shilling (5p) for ten words excluding the name of the sender and details of the addressee. Financially the service was becoming a liability to the promoters and it was not until the Government subsidised the enterprise to the tune of £100 a year in return for the franking of all official communications that a fixed revenue was assured.

Shortly after the Government came to its assistance, the usefulness of the service began to be more widely recognised in both commercial and domestic circles, with a resulting increase in revenue.

Code Used

The code used by Fleming in 1869 as a Western Australian Telegraph Company operator appears to be identical to that adopted by the succeeding Electro-Magnetic Company as their local code, a copy of which is deposited in the J.S. Battye Library of Western Australian History in Perth. (**Fig. 2**).

It will be seen that whilst the alphabet is identical to that used today, punctuation and figures are somewhat

The Electro-Magnetic Telegraph Company's Local Code.

e	i	s	h	t	m	o	a	u	v	w	j
·	··	···	–	—	— ·	— · —	· —	· ··	··· —	· — —	· — — ·

n	d	b	g	r	f	l	p	c	k
— ·	— ··	— · ··	— — ·	· — ·	·· — ·	· — ··	· — — ·	— · — ·	— · —

q	x	y	z	&
— — · —	— · ··	— · — ·	— — ·	·· — ··

(,) – · · · –   (;) – · – · –   (.) · · · · ·   (?) · · – — · ·   (') · – — — ·
(") · – · · – ·   (:) · — — · ·   (Underlined) · · — · — · ·   (Fraction Line) · · — · · — · ·
New Line – · · — · ·

1	2	3	4	5	6	7	8
· — — —	· · — —	· · · — —	· · · · —	· · · · ·	— — — — ·	— — — ··	— — ···

9	0
— ····	— — — —

Call · — · —·   (Station letter)   Ready ·· · ··   (Station letter)   Wait · — ···
Interruption · · · · · · · ·   Conclusion – · — · —·   Cleared out – · — · — — —
Official Message – – — · · —·   Private Message · — — · — —   Secret and
Urgent · · · · · —   Telegraph Service — — · · —   Understood · · — — · · ·
Insured · · — · · · ·   Reply paid — · · — · —·

Fig. 2 - Code used by the Electro-Magnetic Telegraph Company. This is almost certainly the same code used by The Western Australian Telegraph Company for its first message, sent in 1869

——:o:——

LENGTH OF SIGNALS AND SPACING.

1. A dot is the unit of length.
2. A dash is equal to three dots.
3. The space between the signals which form the same letter is equal to one dot.
4. The space between two letters is equal to three dots.
5. The space between two words is equal to five dots.

LETTERS.

a	.▬	g	▬▬.	m	▬▬	s	...	y	▬.▬▬
b	▬...	h	....	n	▬.	t	▬	z	▬▬..
c	▬.▬.	i	..	o	▬▬▬	u	..▬		
d	▬..	j	.▬▬▬	p	.▬▬.	v	...▬		
e	.	k	▬.▬	q	▬▬.▬	w	.▬▬		
f	..▬.	l	.▬..	r	.▬.	x	▬..▬		

UNUSUAL LETTERS.

In addition to the foregoing, the following signals may occur in Foreign Telegrams.

ä .▬.▬ | à or å .▬▬.▬ | é ..▬.. | n̄ ▬▬.▬▬ | ö ▬▬▬. | ü ..▬▬

FIGURES.		PUNCTUATION AND OTHER SIGNS.		
1	.▬▬▬▬	Full stop ... ... (.)	.. .. ..
2	..▬▬▬	Semicolon ... ... (;)	▬.▬.▬.
3	...▬▬	Comma .... (,)	.▬.▬.▬
4	....▬	Colon ... ... (:)	▬▬▬...
5	.....	Note of interrogation or request for the repe-	
6	▬....	tition of anything transmitted which is not	
7	▬▬...	understood .... (?)	..▬▬..
8	▬▬▬..	Note of exclamation .... (!)	▬▬..▬▬
9	▬▬▬▬.	Apostrophe ... ... (')	.▬▬▬▬.
0	▬▬▬▬▬	Fresh paragraph	.▬.▬..
Bar of divis-	▬▬ ▬▬ ▬▬	Hyphen .... (-)	▬....▬
ion.		Parentheses (to precede and follow the words	
		placed between) ... ... ( )	▬.▬▬.▬
		Inverted commas ... ... (")	.▬..▬.
		Underline (to precede and follow the word or	
		sentence)	..▬▬.▬

The following abbreviated signals may be used in repeating figures, but never otherwise.

1	.▬	3	...▬	5	.....	7	▬...	9	▬.	Bar of divis ion.	▬▬
2	..▬	4	....▬	6	▬....	8	▬..	0	▬		

Fig. 3 - The code used by all Australian Colonies as from 1 July 1897. This notice was issued in South Australia. A similar notice would have been issued in Western Australia

different. The codes used in South Australia and Victoria were different again, being based on American Morse, and there was no common code until the general adoption of the Universal Morse Code in all Australian Colonies on 1 July 1897. (**Fig. 3**).

First Tape Found

The first message transmitted from Perth was received on paper tape. In 1980 the actual original tape, wound on a mother-of-pearl spool and enclosed in a Swan River mahogany presentation case was discovered in a Melbourne safe.

The spool had been engraved with the words 'Instrument Register of the First Telegraphic Message in Western Australia', and on the reverse side: 'The first telegraphic pole in Western Australia was erected by the Hon. F.P. Barlee, Colonial Secretary, on 19 February 1869'.

The shield on the lid was engraved 'Western Australian Telegraphs' with the initials 'FPB' superimposed on a background of telegraph poles and wires. This had been presented to Barlee in recognition of his active support and enthusiasm for the telegraph project.

The fate of the tape and spool in the intervening years is unknown, but in 1940 the Agent-General in London was offered it for the sum of 10 guineas (£10.50) by a private individual. How that person acquired it is not known.

The Post-Master General's Department agreed to purchase the spool and it was sent to Melbourne where, apparently, it was put away for safe keeping and forgotten. It was rediscovered in 1980 and finally sent to the Post & Telegraph Museum in Perth.

With the help of the Battye library the message was decoded. One report suggests that the code itself had been devised by the Western Australian Telegraph Company. However, as the technical operation was undertaken by Fleming, a trained telegraphist, it is possible that he followed the practice in use when he trained in England before being brought to trial in 1862. (Bain's Code?). Another possibility is that the code details were supplied with the Siemens Brothers equipment. (Continental Code?). *(While the alphabet is that of the continental code, the numbers are from Bain's code, except perhaps 0, which MM has not yet been able to confirm. – Ed.)*

It is interesting to note that the importance of the inaugural occasion probably caused Fleming some nervousness. The paper tape recorded precisely what had been sent – message and errors included! In practice the received message would have been transcribed manually and corrected before delivery.

Cable Routes to UK Discussed

In 1870 a detailed 14-page memorandum was submitted by Fleming to the Colonial Secretary about a proposal to construct a telegraph system through the colony.

In setting out the political, social and commercial advantages which such a network would attract, Fleming also reviewed the several cable schemes for connecting Australia to the UK which had previously been placed before the sister colonies, dating back as early as 1859.

In Fleming's view no less than four could now be 'consigned to oblivion'. In the end, the rejected schemes were:

1. A line connected to the Indian Telegraph System at Rangoon, submarine cable to Singapore, existing Dutch lines to Java and Java to Brisbane.

2. A line from Moreton Bay to Port

Essington, cable from there to Timor and on to Java.

3. A line from Ceylon to Java Head, Melville Island and Cape York.

4. A line from Port Augusta to the north coast, cable to Timor and on to Java.

5. A line from Port Augusta to King George's Sound, Exmouth Bay and on to Java.

6. A cable from Ceylon to King George's Sound.

With the exception of the last proposal, Fleming suggested that all of the above schemes were under great disadvantages, not least that the proposed routes would be at the mercy of a foreign power, lead over shallow seas and be subject to heavy maintenance charges.

In reviewing the various international connection schemes he took pains to stress the importance of the colony erecting a land-line to King George's Sound so that in due course it would, in any case, be connected by landline or cable to South Australia.

Second Telegraph Company

An important part of Fleming's representations to the Colonial Government was the submission of a prospectus to set up The Electro-Magnetic Telegraph Company, Western Australia with the following objectives:

1. To share with Government the provision of instantaneous communication throughout the colony; connection to the Australian telegraph system in South Australia; and to encourage the project of a submarine telegraph cable from Ceylon to the Australian seaboard.

2. The lines to consist of 408 statute miles with the right of extensions being reserved. (The cost of the work was estimated to total £11 424, with some assistance from Government labour, i.e. £28 per statute mile.)

3. The Government to guarantee the company a return of 6% per annum and attach the telegraph stations and service to the Post Office Department. When earnings enabled 6% to be paid the Government to grant a sum which would pay 8% on the capital. Further revenue to be appropriated for a Reserve Fund.

4. All messages on Her Majesty's Service to be transmitted free of charge and accorded priority.

The prospectus was issued for the Electro-Magnetic Telegraph Company. The following year Stirling, who had previously bought out his partner, sold his interest in the Western Australian Telegraph Co. to the Electro-Magnetic Company for £1500.

Fleming was appointed superintendent of the new company. Given a free hand to extend the telegraph to outlying districts, the company flourished, backed by a Government guarantee of a minimum of 5% interest per annum for its shareholders. A Major Crampton (Commandant of Forces) was appointed Chairman.

Expansion of Services

In 1871 the Post Office and the Electro-Magnetic Company jointly operated the new system. The private company still owned and erected the lines and supplied the instruments while the government department dealt with staff and buildings. By 1872 the company had opened all the stations proposed in the prospectus when it had been floated.

The arrangement was satisfactory but short-lived. The company was bought out by the government for £13 000. On 1 January 1873 the government became the sole owner and operator of the colony's telegraph system. Fleming transferred to the Posts and Telegraph Department to become its first Superintendent of Telegraphs, serving in that capacity until his death at the age of 49 years. By 1874 all townships south of Geraldton were connected to the telegraph service.

The 'East-West' Line

The final major development in WA was the completion of the Intercolonial Telegraph Line – Albany to Eucla – connecting Western Australia to South Australia, and consequently the outside world. The first post was installed in January 1875 and the line was completed in 1877. This continued in use for 52 years. The route was abandoned in 1929 when new modernised channels became available along the transcontinental railway track.

A telegraph line via Eucla near the border between the two colonies had been mooted as far back as 1860. Eventually concrete proposals were lodged by the respective Governments in 1873 for the erection of lines in their respective territories to Eucla (9 miles inside WA territory).

The logistics were daunting, particularly where transport consisted of small sailing vessels delivering their cargo to pre-arranged destinations along the remote and uninhabited coast line. The line from Albany to Eucla was 750 miles long, and required over 7000 14-foot Jarrah wood poles, weighing close to 2 cwt (100kg) each.

The South Australian section was completed on 15 July 1877 and in order to offer a service as quickly as possible, arrangements were made for telegrams to be received on field instruments from Perth and then taken in to Eucla on horseback for Morse transmission to Adelaide and onwards. The reverse procedure was also followed until the fully completed circuit was connected on 8 December 1877. The total length of the circuit was then about 1500 miles, over extremely inhospitable terrain.

Eight repeater stations boosted transmissions along the line, the one at Eucla being manned by staff appointed by the respective Governments which, for many years, jealously guarded their independence of action until Federation came about. Traffic from Perth was received at Eucla, transcribed into longhand and passed through a hole in a partition to South Australian operators sitting opposite. They, in turn, re-transmitted the messages onwards in their own version of the Morse code – and vice-versa. Each side of the partition was in a different time zone, 90 minutes apart.

Apart from the code, much of the equipment on either side was also different, including insulators and batteries, and the absence of uniformity in so many details was material for a strong plea for Federal control. Staff levels rose over the years to a maximum of 16 on each side.

Several improvements were introduced from time to time as the telegraph service expanded; a major one being the building of a new line in 1896/97 using
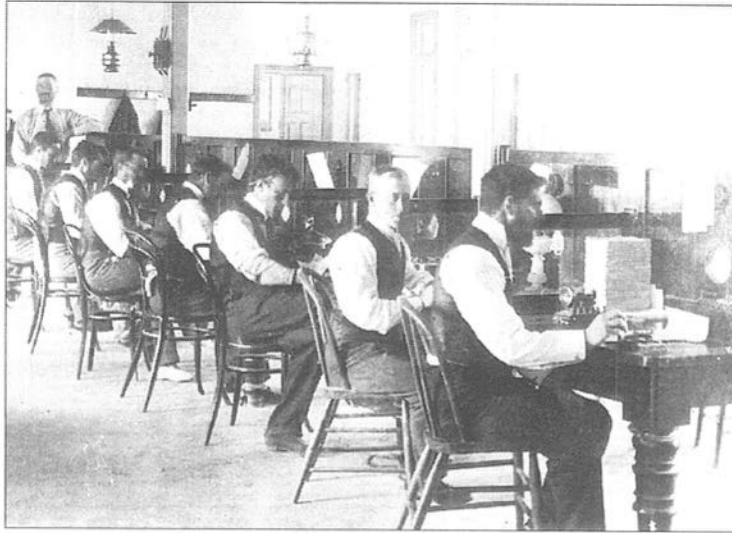
Telegraphists at Eucla. Note the holes in the partition through which messages were passed for onward transmission in a different code

tubular iron poles and following a different route.

Telegraph Stations

A detailed list of the telegraph stations which opened in Western Australia before the Federation of Post Offices came into effect on 1 March 1901 was compiled in 1958 with an update and annotated notes in 1979.

In the period under review – 1869 to 1901 – 186 stations were opened whilst 24 were closed for a variety of reasons including transfers or replacements by other stations.

One or two special situations are worth identifying:

Cape Leeuwin – Thought to have been established primarily to deal with shipping reports and was also said to have been connected to a distant office using a condenser telephone on the telegraph line.

Kookynie – The last station opened by the WA Colonial Post Office on 28.2.1901.

Rottnest Heliograph – A heliograph station superseded by the opening of a submarine telephone cable to the island on 5.3.1900.

The first two stations opened by the Federal Post Office were Glen Forrest on 12.3.1901 and Mulline on 19.4.1901.

In preparing this brief review of telegraphy in Western Australia, I must record my indebtedness to Mr John Moynihan of Telecom Australia and the J.S. Battye Library of West Australian History, both of whom generously responded to my enquiries with a considerable amount of background material on this subject.   ***MM***
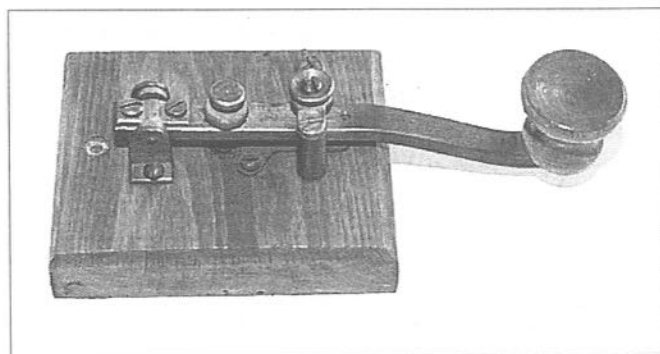
Info Please!
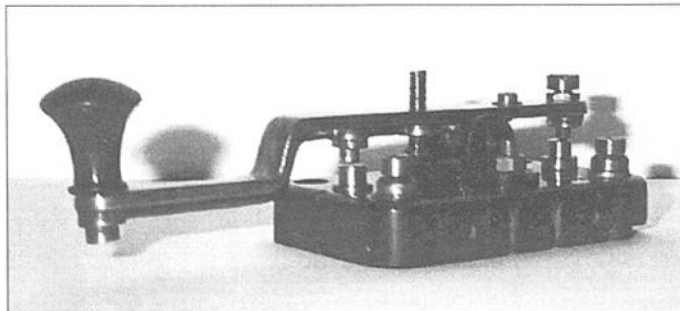
French key, c.1914(?), on ebonite base, engraved M.A.E.S. TREVOUX
(AIN). It is assumed that M.A.E.S. was a company located in Trevoux in the
'Ain' department of France. Information is requested about this company
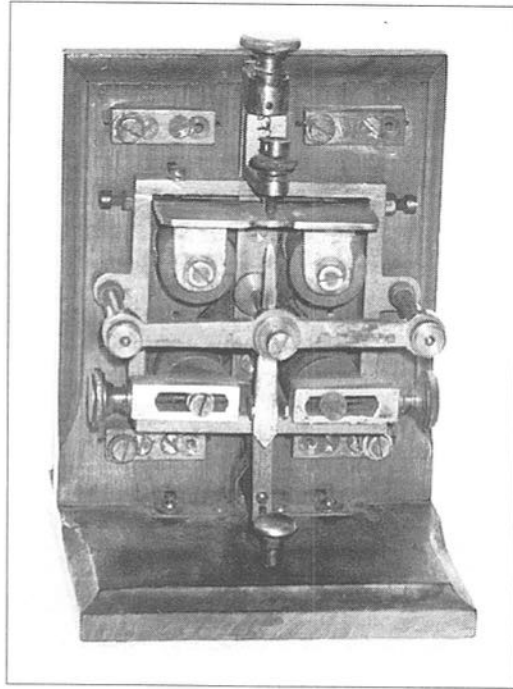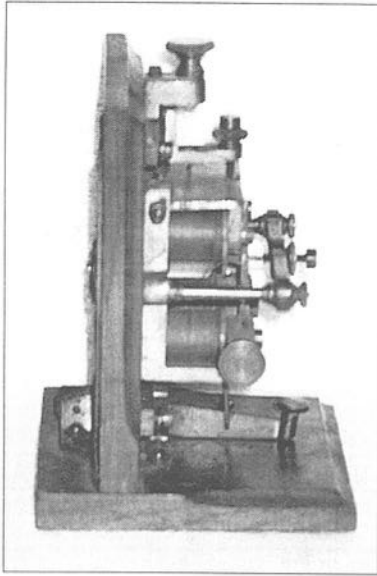
Unknown key, possibly German? Info please

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

Mystery four-coil instrument. When 'key' is up, an electrical contact is closed and the needle can move from side to side to create signal(?) clicks in response to received reversing currents. When the key is down, the contact is opened; and the needle movement is physically restrained. Info please
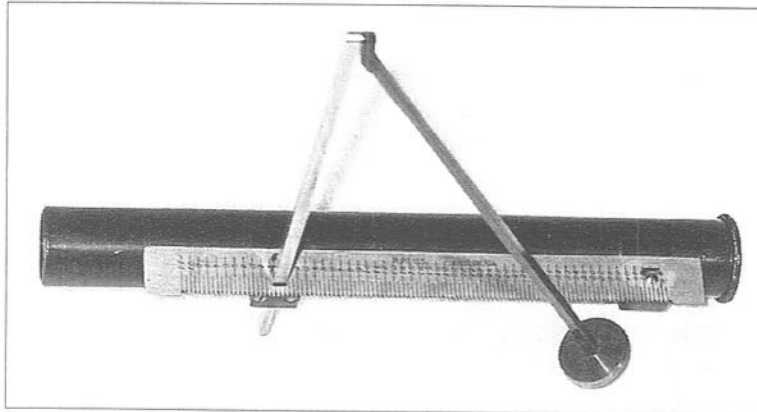
Height measuring instrument, marked R.REISS, LIEBENWERDA, including sighting tube, used for measuring telegraph poles. Info requested. Does anyone know exactly how this was used?

CW-Virus

by Monika Pouw-Arnold PA3FBF

IT WAS CHRISTMAS 1965. I was 11 years old and because I was a bookworm I was given a book of stories of historic events and people. Among these stories was a short biography of Prof. Samuel F.B. Morse including, of course, a copy of the Morse code. The code fascinated me, I looked at it again and again, and as a result I became infected by the CW-virus.

Looking at the Morse symbols, I began 'hearing' dot-dash rhythms in my head and when I realised that several Morse characters were already embedded in my memory I settled down to learn the entire code, using the 'book open/book shut' method.

At the same time, I began exploring our FM/MW/LW home radio, trying to find broadcasts from those magic-sounding places on the dial such as Beromünster, Kalundborg, or Budapest. Soon, though, the English language night-broadcasts from Radio Luxembourg (who remembers "two-oh-eiiight"?) became my favourite with its Motown-music.

First CW Signals Heard

It was not long before I heard my very first CW signals on the air. Hearing real dots and dashes was like an electric shock. I wrote down 'vvv vvv vvv de dam' and discovered later that this was Norddeich Radio providing communications between ships and the land. I realised I had taught myself something very useful which could be understood by relatively few grown-ups. I felt sorry for the rest, those 'normal' people, who were restricted to writing or telephoning when they wanted to communicate over a distance.

It would surely be useful if I could take down 'classified' information in Morse without the need to hide it, after all, no-one else I knew could read it! At this time I also became interested in the history of telecommunication, and its inventors.

There followed a period of about two

years when I suffered a raging 'Morse-fever'. I attended Morse-lessons at the local Youth Welfare Office, where the speed taught was around 6 words per minute. I bought a copy of the book our instructor was using and discovered that Morse language was more efficient and effective when used with Q-codes and abbreviations.

On birthdays and other occasions I received gifts of MW and SW detector kits which were always dismantled after the unsuccessful 'improvements' I tried to make, and their parts were used to assemble my landline rigs. Despite all my efforts, including using a 20-metre wire antenna and a grounding wire to the water tap, I could pick up only one local broadcast station on MW; and I was also disappointed that neither the construction manual, nor any books I could find in the library, supplied any circuit for a Morse transmitter to provide worthwhile distant communication.

Dream Disappeared

At the end of those two years, I became bored. I hadn't succeeded in infecting my friends with the CW-virus. I had installed a 'landline' to a friend's parents' flat one floor above ours, but soon had to replace the keying and sounding devices with telephone parts. I had made a tape at about 15 wpm of good readable Morse, but as I could only read at around 6 wpm I was unable to copy my own texts. Gradually my acute Morse fever turned into a non-symptomatic chronic disease.

What caused real bitterness, however, was the fact that to get a ham 'ticket', age not enthusiasm counted. Even if I

had been able to pass all the tests, I would not have been allowed on the ham bands until I was 18. And having to wait for 5 years seemed like an eternity to a 13 year-old.

My dream of catapulting dots and dashes into the ether to be heard wherever they came down on the globe disappeared into the distance. It was the end of my Morse-virus disease, or so I thought for a very long time.

Vaguely Familiar Sound

Fifteen years later, with several years experience as a medical technologist, I felt ready for new adventures and looked for employment in a different field.

I went to a staffing agency to seek an office job although I had no experience of this type of work. A few days later I started in a sales office at a firm where I am still employed. While I was being introduced to my new colleagues, and to my new duties I could hear, in the background, a vaguely familiar sound.

Although interested in all matters technical there was one telecommunication facility I had not experienced. In a separate small room I came face-to-face with it – in the shape of a rattling, grey, telex machine.

A Sort of QSO

I was at once attracted to it, by sight and sound, irresistibly, magically. Crazy, I admit, here I was aged 28, and the object of my obsession was a rather noisy Siemens T-1000 'potato masher', and best of all one of my new tasks was to operate it!

I learned to operate and carry out minor maintenance on the telex,

punching tape, correcting mistakes, transmitting and receiving. Working on that machine set me wondering romantically about the holes in the yellow tape. How would they travel, screened first by a photodiode to transfer them into electrical impulses behind the plug in the wall, becoming printed text again at almost the same time, hundreds of miles away.

Recipients could reply immediately to urgent messages and a sort of QSO would develop (reminding me vaguely of something from my past). At other times, tedious work could be enlivened by humorous two-way exchanges between the operators at each end. Regrettably, four years later those efficient two-way connections came to an end (thanks to technical progress!) and our potato masher was returned to the PTT.

Shortwave Receiver

From my first day on the telex, in the Autumn of 1983, I tried to find out more about communications in my leisure time. I discovered a magazine which covered computers and amateur radio, as well as telex/RTTY.

The RTTY frequencies of embassies, coast stations, etc., listed in the magazine attracted my interest, also the pros and cons of the best gear to use in the hobby. My wireless activities, therefore, had to start with a good stable shortwave receiver fed by an outdoor random wire antenna.

However, I soon realised the disadvantage in this arrangement. I could only receive. I could not transmit and have QSOs. Things couldn't go on like this for long!

Lost Attraction

There was a solution to my transmitting dilemma. A well-known Dutch correspondence school was offering courses for amateur radio 'C' and 'D' license examinations, and 'C' hams were allowed to use RTTY.

One evening, in the Spring of 1985, alone at home while the OM was on duty, I tried to decide if I had a good chance of at least getting a 'D' ticket. I had already resigned once from a technical course – although I was only 13 at the time – and the fees of this new course were too high to allow for any light-hearted approach to enrolment.

My thoughts went over and over the same ground. Could I finish the course? Did I have sufficient enthusiasm? The latter question had been causing problems in the last few weeks. For some reason RTTY was losing its attraction for me.

I had seemingly lost my way, there was no longer any reason for me to take an amateur radio course – just when I felt ready to resuscitate my old ambition from the past! It was as if my legs had been pulled away from underneath me. Why was I losing interest again?

Point of No Return

I felt there was something right in front of me, but I couldn't see it. Inside my head, my thoughts continued, but somehow independently of me. "RTTY..." said my head, "is just an advanced type of MORSE CODE."

My good old CW-virus had thrown off his camouflage suit, marked

BILL HOLLY'S BOOK, *The Vibroplex Co., Inc, 1890 to 1990* includes the drawing of a telegraph key, invented by Royal L. Boulter, contained in US patent No. 1,074,831, dated 7 October 1913.

In all, five Boulter patents were bought by Vibroplex. In his book, Bill Holly suggests they were purchased to protect existing Vibroplex patents. There is no documentation to prove this, he says, but buying the patents was probably cheaper than going to court.

Two of the five (including 1,074,831) are double-lever machines, and as Horace Martin hadn't bothered to patent the double lever, Albright, who was in charge of Vibroplex by this time, must have thought it prudent to buy their

Replica of a Boulter Key

Made by Dennis Goacher G3LLZ

patents. He may have bought the other patents as insurance against competition, or he may have seen merit in their designs.

Holly reports that at a Vibroplex
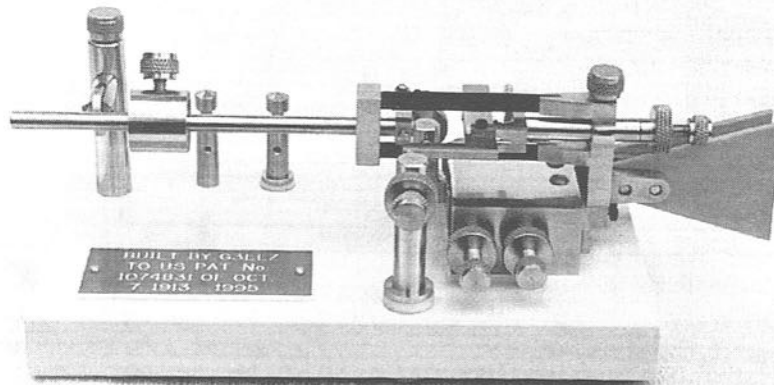
Dennis Goacher's reproduction of Boulter patent 1,074,831

R. L. BOULTER.

TELEGRAPH KEY.

APPLICATION FILED AUG. 12, 1912.

1,074,831.

Patented Oct. 7, 1913.

2 SHEETS—SHEET 1.

Fig. 1.
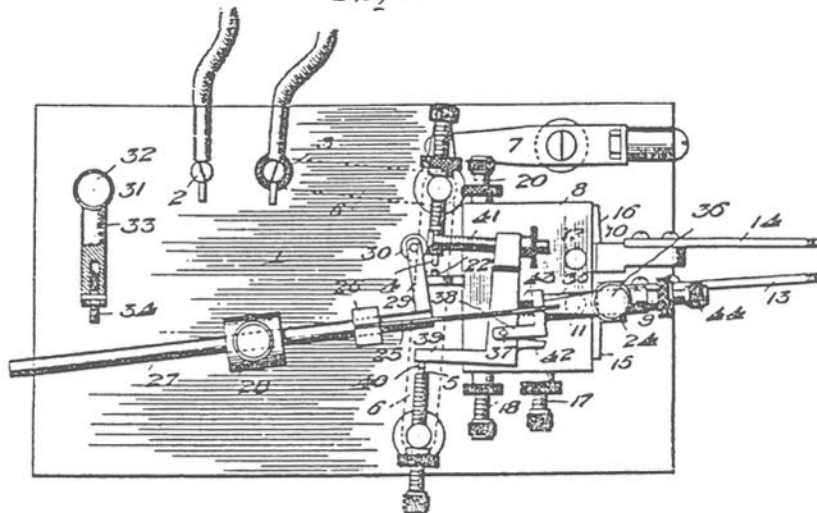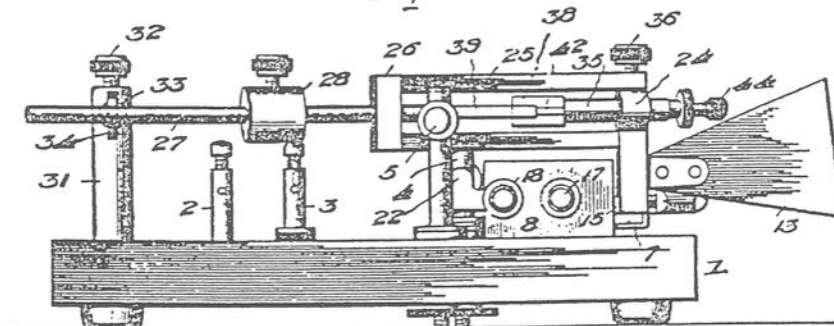

Fig. 2.

WITNESSES

G. V. Lockwood

INVENTOR

Royal L. Boulter

by G. L. Whamlin

Attorney

R.L. Boulter's patent No. 1,074,831, dated 7 October 1913. Figs. 1 and 2

board of directors meeting on 19 September 1919, plans to build a Boulter-type sending machine were mentioned, but no such machine has ever been found or documented.

Dennis Goacher, G3LLZ, has made a replica of the key described in Patent No. 1,074,831, although whether a copy of a key that was never marketed should be called a replica is debatable. Perhaps 'reproduction' would be a better word!

Dennis reports: "There are a lot of moving parts on this key, and it is fascinating to watch it make the dots. It handles quite well and should be capable of working at fair speed, although not as fast as the more usual design.

"This is because all of the dot gener-ating mechanism is mounted on the one arm, which is pivoted on a $^3/_{16}$in diameter pin set in two holes, top and bottom, in the large brass bearing block. When sending dots, the whole assembly is moved to the left by the action of the appropriate paddle, and is returned to the rest position by the action of a compression spring.

"The entire sequence is a compromise between balancing the mechanism when it is released and the speed of return which is governed by the strength of the spring. A fast return requires a strong spring, but such a spring makes it hard to move in the first place, hence the compromise."

RB

CW-Virus

'RTTY', with a broad smile. After 17 years, the past had caught up with me. I had needed all that time, developing energy on a supposedly different hobby, to overcome my diffidence with figures, formulas, circuits (anything with more than one transistor or valve!), and the like. My quiescent 'Morse-fever' had exploded into the present.

This was the point of no return. I confidently enrolled for the 'D' course, driven on by my CW-virus who kept assuring me he would help me through it, even through those blackest moments when I thought "I'll never manage it!" The outcome of all this, and where it led me, is perhaps quite well known! *MM*

(Monika is a regular contributor to MM, and the story of the day she took her Morse test was told in MM29 (p.10). If you hear her on the bands, give her a call on the key and tell her you read MM. She will be delighted to hear from you. – Ed.)

Paddle and Keyer

Notes on Current Amateur CW Technique

by Bob Locher W9KNI
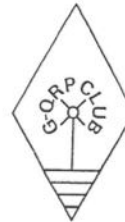
THE MOST WIDELY UTILISED METHOD of forming Morse CW characters on the amateur bands today is undoubtedly the combination of the paddle and the keyer. The ease, speed and accuracy of this combination make it, for most amateurs, the ideal vehicle for hand-formed CW. Properly used, the paddle and keyer help the operator send perfect CW smoothly and at speeds not possible with any other method of hand-sent CW.

In spite of the worldwide usage of the paddle-keyer combination, there is little standardisation on methods of interconnection, little on hooking up the equipment, and virtually nothing in the way of literature on selection or proper usage.

Although there is no absolute standard, most operators hook up a paddle so that the thumb sends dots and the fingers send dashes. The wire between the paddle and the keyer is usually a shielded two-conductor cable, and the shield is used for the ground return, providing some shielding from transmitted RF. A quarter-inch stereo jack-plug is generally used to plug the paddle into the keyer, and the tip of the stereo plug usually carries the dot side connection.

Types of Paddle

Two types of paddle are used today – iambic and non-iambic. Iambic paddles are also sometimes called twin-lever or dual-lever paddles, while non-iambic paddles are referred to as single-lever paddles. Though these two types of paddles often closely resemble each other, depending on the design, usage and technique can be very different, and those operators using one type often find it difficult or impossible to use the other.

In a single-lever, non-iambic paddle, dots are formed by moving the paddle to one side, while dashes are formed by moving the paddle to the other side. Since the paddle is a single-lever type, it is impossible to close both the dot and the dash circuit at the same time.

In the iambic style of paddles, one lever side is pressed to send dots, while the other is pressed to send dashes. However, it is possible and practical to close both the dot and dash circuits at the same time. This feature, when used with a

keyer designed to take advantage of the ability of the paddle to close both circuits simultaneously, allows the operator to form some characters with significantly less wrist and hand motion. This added feature makes iambic keying desirable for those who learn the techniques.

Thanks to the low cost of modern microcircuit components, virtually every keyer offered today is fully iambic and can be used equally with iambic and non-iambic paddles. The features of an iambic keyer are of value to both iambic and non-iambic users alike.

Dot-memory

For the non-iambic user, the dot-memory that is a necessary component of iambic keying offers enlarged timing tolerances, making the non-iambic operator's CW more accurate. For example, the letter 'K' in Morse, dah-dit-dah, is formed on a single lever paddle by closing first the dash side, then the dot side, then the dash side. However, for the character to be properly formed by a keyer lacking dot memory, the dot must be initiated by the operator during the space following the dash, and held until the dot actually starts forming. To do this properly requires rather accurate timing, more difficult at higher speeds.

If the keyer has dot memory, the timing tolerance for closing the dot circuit is greatly enlarged. Now, at any time during the actual transmission of the dash or the following space the operator can close the dot circuit momentarily. The keyer will hold a dot instruction in dot memory until the dash and the space following are completed. Then the

keyer will send the dot, regardless of whether the paddle is closing the dash circuit or is at rest.

Iambic Advantage

The advantage of the iambic technique, as mentioned before, is the reduced motion needed to send many characters, particularly the so-called iambic seven, which are the letters 'C', 'F', 'K', 'L', 'Q', 'R', and 'Y'.

The classic example of the advantage of iambic techniques in sending is the two letters 'C' and 'Q'. In conventional single-lever paddle usage the operator hits the dash contact, then moves the lever to the dot side, back to the dash side and again to the dot side, pauses for the letter space, then goes to the dash side, waits for two dashes, then hits the dot side and returns to the dash side.

The iambic operator, on the other hand, squeezes the two paddles, being sure that he closes the dash side first. The keyer thus starts with a dash, and, as long as both paddles are held closed, automatically sends dashes interspersed with dots until the operator releases the paddles. Therefore, at the start of the second dot the operator releases the paddles, the 'C' is completed, and the operator waits a letter space before starting the letter 'Q'.

The 'Q' is started by holding the dash side of the iambic paddle closed, and once the second dash has started, just flicking the dot paddle closed momentarily, while continuing to keep the dash circuit closed. After the end of the second dash, the dot memory of the keyer generates the dot, and then the dashes resume. The operator must release the

paddle after the dash starts, allowing the 'Q' to be completed.

Notice, then, that to send a 'CQ' iambically requires only a properly timed and started squeeze for the 'C', and holding down the dash paddle with a kiss of the dot circuit for the 'Q'. Compared to the back and forth movements needed on the single-lever paddle, one can see how much more economical of motion by the operator the iambic paddle is, and this leads to more comfortable and faster keying and often better accuracy.

Conversion Tips

Many operators who have had experience using bugs find the conversion from single-lever to iambic paddles and iambic techniques very difficult due to habits picked up using bugs that are incompatible with iambic techniques. This is especially true of operators trying to quickly learn to key iambically. I went through just such an experience, and it was months before the conversion was complete.

For the operator wishing to convert from a single-lever paddle to a double-lever paddle a few tips might be helpful. First, once you have made the decision, stick with it. Unhook the old paddle, put it away, and do not use it again. The techniques of iambic keying are incompatible with it, and going back and forth between paddles will make for an impossible situation.

Then, with the new paddle hooked up, do NOT try to learn iambic techniques; just concentrate on sending CW. The first day or two may be difficult, and practice should be confined to the monitor of the keyer, not on the air, until you begin to be comfortable with the new paddle. Once you are able to send CW without excessive mistakes, return to normal operating. But do not try to use iambic techniques; given a bit of time they will come naturally.

One day your subconscious will realise that sending CQ the old way is silly with iambic techniques available, and you will start slipping into the iambic mode. Then you will probably go through a stage in which you try to send everything iambically, including letters for which the technique is inappropriate. Once you have that habit under control, the conversion will be complete.

Is It Worth It?

Is the pain of conversion worth it? For me it certainly was. Keying is easier, more fluid, and faster. But for some people who have been using single-lever paddles for years it may not be. And after all, amateur radio is a hobby; the conversion will only be worth it if it gives dividends in operating pleasure. If it won't, then don't try it.

If you never go over 20 or 25 words per minute and have no desire to do so, then the conversion is likely to be of little value to you. However, if you aspire to 40 or 45 words per minute, iambic sending will make your goal more achievable.

Confusing Term

The term 'iambic' puzzles many amateurs. A look into most dictionaries does nothing to dispel the confusion. In fact, the term 'iambic' is derived from poetic metre, or rhythm. In poetry an

iambus is a pair of syllables, the first unaccented, the second accented. The iambus is equated to a foot in poetic metre, and is the basic unit of poetic rhythm and timing. Different forms of structured poetic verse use different rules of timing, with a common form being, for example, iambic pentameter.

Iambic pentameter calls for lines of poetry each five poetic feet long, and would be expressed by a poetry teacher interested in demonstrating it as 'dit-dah dit-dah dit-dah dit-dah dit-dah' with inflections on various of the couplets to emphasise his or her timing. This sounds remarkably like a ham's idea of five 'A's being expressed in Morse code, and in fact is similar to what comes out of an iambic keyer when both paddles are closed: dit-dah-dit-dah-dit-dah, etc. That, then, is how iambic keyers and iambic paddles acquired the name.

Subtle Timing Difference

If you are a recent newcomer to CW, or if you have never used a bug or a single-lever paddle, by all means start with an iambic paddle and keyer. You will have no habits to unlearn, and you will find iambic techniques easy to learn and satisfying.

For those operators using iambic techniques, there is one other choice which must be made, between, as Curtis Electro Devices puts it, type 'A' and type 'B' timing. The difference is subtle but very real, and operators used to 'A'

timing cannot send properly on a keyer with 'B' timing, and vice versa.

Commercially, only keyers using the Curtis 8043 or 8044 chip are available with the 'A' timing pattern, but the 8044 chip is also now offered with a 'B' timing pattern. Although either pattern is perfectly valid, the author recommends 'B' timing if an initial purchase is being contemplated, as there are far more keyers, including all current programmable memory keyers, using the 'B' pattern. In any case, the problem only exists for operators who actually use iambic keying techniques.

If you use iambic techniques and wonder how to tell the difference, try sending a 'CQ' on the keyer in question. If you get it without error, the timing is the same as you are used to. If you are a type 'B' operator and the keyer is type 'A', you will get 'KG' or possibly a 'KQ'. If you are a type 'A' operator, you will get an extra dash at the end of your CQ.

Modern paddles and keyers add a great deal of pleasure to CW operating for those who know how to use them. I hope that this article will help others find out how pleasant CW can be.

© *Bob Locher 1986*

Note – Since this article was written, the Mode A – Mode B option has also become available in iambic keyer chips from other manufacturers, such as the TiCK chip from Embedded Research. – Ed.

Please mention *Morsum Magnificat* when responding to advertisements

THE APRIL 1996 ISSUE of *Morsum Magnificat* (MM45, p.14) carried an article on Wirespeak, a combination of abbreviations, contractions and misspellings used by Associated Press news staff to communicate over the wire services. Now there is a 174-page book on the subject, this time from the viewpoint of AP's rival, the United Press International.

Written by ex-UPI journalist, Richard M. Harnett, the book outlines the origins of Wirespeak in some detail. Describing how Morse's telegraph started the communications revolution, quickly spreading across the United States and around the world, it takes in the impact of the Phillips code, the number codes, and the development of 'Cablese', to improve communications, at the same time reducing the number of words, and hence the cost, of news and other material sent by cable.

There are examples of the secret codes used for confidential messages by both the Associated Press ('Code A') and the United Press (known simply as 'the code'); the Bureau call letters of both organisations; and a comprehensive Wirespeak glossary.

Coming right up into the world of computers, there is an explanation of Custom Coding, a system enabling recipients to receive only the material they require out of the mass of news stories now constantly coming through the wire.

A fascinating chapter discusses the

Book Review
Wirespeak: Codes and Jargons of the News Business
reviewed by Tony Smith

origin of '30', originally used by telegraphers to mean basically 'no more'. This term was eventually adopted by newspaper staff and included in their copy to signify 'the end'. Harnett relates a number of suggestions as to the origin of '30' which have emerged over the years, some plausible, and some highly imaginative, to say the least!

For those interested in the use of words, there is a glossary of newspaper jargon, a highly specialised language, finely tuned to the needs of the industry.

Finally, of interest to many *MM* readers, the book contains a complete listing of the 1925 version of the Phillips code, albeit without the introductory/explanatory text. *(There will be an article looking closely at the Phillips code in MM shortly. – Ed).*

This is not a Morse book as such, but for those interested in the history of telegraphy there is much of interest as

Your Letters

Elektrisk Bureau Key

With reference to the front cover photo of MM54, this key will not only be familiar to Radio Officers on Norwegian ships but also to many British Telecom R/Os, as it was probably the last model brought into use at BT coast stations before the advent of electronic keyers.

We certainly had them at Niton and it was such a key that was presented to Earl Mountbatten on the occasion of the official opening of the 'new' Nitonradio station at Dean Farm in March 1975.

John P. Evans
Whitwell, Isle of Wight

Learning Plateau

Monika Pouw-Arnold (MM55, p.46) says that in 1987 she experienced a sudden jump in copying speed – from a plateau where she had been stuck at 8 wpm for three months in spite of 'enthusiastic' daily practice. Then, after two weeks of no practice, she tried again and was surprised to find that her copying speed had nearly doubled – without any effort on her part at all!

That certainly is not unusual. It has often been experienced. My own experience was similar, but different. I had learned the code from printed charts and spent lots of hours of diligent practice, and then just squeaked by in March of

1930 with the barest 10 wpm required, and became licensed. It was easy to send, but receiving was hard for me.

As much as I liked the Morse code, 10 wpm was work. It wasn't enjoyable to copy, and after a couple of years of zero improvement, it became so discouraging I just dropped out – not just for a few weeks of no practice, but for years.

Nobody had pointed out to me the obvious until years later – that we must learn the code from the beginning, not by eye from charts, but by sound only, by ear. When I did try again, that way, those old visual images were so strongly embedded in my mind that gains were very slow in coming. But once that fact finally seeped in, progress began, and those sudden jumps which Monika experienced appeared.

A second factor is that our minds do not seem to establish automatic thinking functions well when they are under pressure. Constant practice, practice, practice under urgent desire can be self-defeating. That was another thing I needed to realise – to learn to relax and enjoy the learning process. It was another hard lesson to learn, for I am by nature a driver.

Our minds aren't stubborn, we just have to learn how to use them. Understanding the importance of these factors

in learning the Morse code was slow to come to the radiotelegraph profession and to us amateurs. When we know them and let them co-operate, gains can be very fast – at times seemingly miraculous.

Wm. G. Pierpont N0HFF
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Secret Sign

My interest in Morse code was stimulated at quite an early age as a member of the 'Good Companions', a children's club with the motto 'Help One Another', run by *The Guardian*, a local newspaper based in Walthamstow, London.

Members had a 'secret sign' by which they could recognise each other if a badge was not in evidence. This is how the rules of the club described the sign:

'The first member gives the Morse Code

Cover of the Good Companions' Club Book of Rules

letter G, which is two dashes and a dot (– – ·). This can be done by sound, such as knocking on a door, tapping with the foot, whistling, etc., – two long sounds and a short one. The sign can also be given by flashlight.

'The response is the Morse Code letter C, which is dash, dot, dash, dot (– · – ·), or long, short, long, short.

'Now you will know if a Good Companion is knocking at your door, or whistling down the street!

'If anyone fails to give the correct answer to your signal, you will know that they do not belong to the Club.'

The date of this was probably the late forties, early fifties.

Richard Putnam G0ILN
Bexhill on Sea, East Sussex

Exchange of Pleasantries

The following anecdote may amuse your readers: While serving as a Radio Officer with London and Overseas Freighters, around 1958/59, it was my practice when off watch, on a fine evening, to chat with the 3rd Mate on the bridge wing and to call the occasional passing ship on the Aldis lamp to exchange voyage details.

One evening, westbound through the Med, abeam of Algiers or thereabouts, the lights of a largish ship appeared fine on our port bow. Grabbing the lamp, I gave her a call and was answered at once with a bright light and good Morse.

We exchanged the usual pleasantries from which I discovered she was the French Shell tanker *Fabiola*, outward bound for the Gulf. After giving me an 'R' for my particulars, I was surprised when, instead of signing off, he sent

'Why did you burn Joan of Arc?'

To say I was dumbfounded (I was only in my 20s after all) was putting it mildly. I sent the first thing that came into my head: 'Because we ran out of oil.' I got an 'R' for this and there wasn't time for more as having passed so close to us she was by this time fast disappearing astern.

I have thought of a thousand more apt replies over the intervening years, but one thing is certain – I never forgot the occasion! I was never in touch with her R/O on the key and suspect that my correspondent was probably the deck officer on duty.

John P. Evans
Whitwell, Isle of Wight

Barred Letters

With reference to the request for information on 'barred letters' in MM55 (p.7), I remember some of these letters being used on the SYKO machine which we used in aircraft in WWII. The 26 letters plus 10 numerals were not enough symbols to 'confuse the enemy' so $\bar{n}$, $\bar{o}$, $\bar{p}$, and $\bar{x}$ were added to the alphabet.

Syko messages were always sent in groups of four symbols – and read back to verify – at about 15 wpm. The Syko machine had a sheet of mixed letters/figures in 40 columns (which was changed daily), and 40 rods each with 40 symbols. The rods could be drawn down over the sheet to convert plain text into code, and vice versa.

I may have some of these details incorrect. It is difficult to recall exactly after all this time, but I certainly used the system as a Wireless Operator/Air Gunner in 206 Sqn, and later 200 Sqn, in Hudsons, using the R.1082, T.1083, and later the Bendix sets.

Vic Reynolds G3COY
Hartshill, Stoke on Trent

Wirespeak

so much of what is described was originally intended to pass over Morse wires, or has its roots in early Morse practice. I am sure that many Morse enthusiasts will be pleased to have this interesting and well-written book on their bookshelves.

Wirespeak: Codes and Jargon of the News Business, by Richard M. Harnett, is published by Shorebird Press, 555 Laurel Avenue #322, San Mateo, CA 94401, USA, price $14.95 plus shipping (US) $3, (outside US $5), dispatched first class. Payment in US currency (including money order) only. No credit cards. Orders or inquiries can be sent by e-mail to: Shorebirdp@aol.com

UK 500kHz Watch

In the Editorial Comment in MM55, I said that a 500kHz listening watch would continue to be maintained by the UK Coastguard stations after the service was closed at the BT Coast Stations. I have since learned that the information on which this was based was wrong, and there will be no watchkeeping for MF W/T distress calls at any UK station. My apologies for misleading readers.

Geoff Arnold

What is it?

Discovered on a road traffic island in Penarth, South Wales, by MM reader
John Davies G4ETQ, could this be part of the telecommunications industry's
insurance against possible failure of its high-tech computer-controlled systems
come the Millennium?
No, in fact it is a memorial to the tests carried out by Marconi in May 1897 from
nearby Lavernock Point, when he successfully communicated across the
Bristol Channel to Flat Holm Island and Brean Down in Somerset.

(Photo: David Davies)
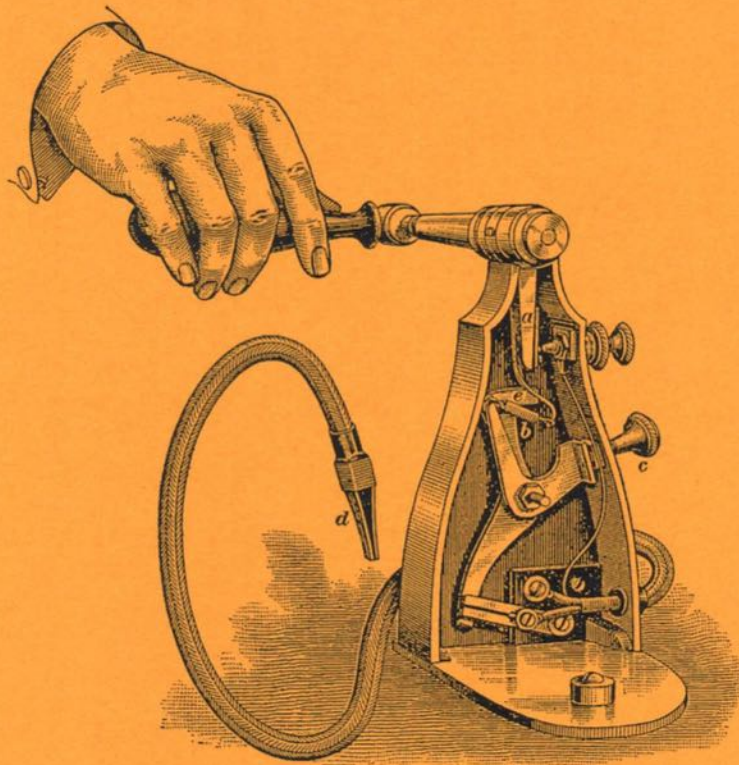
The Twentieth Century Key

This key is shown with one of its faces removed to show the interior construction.
It was devised for the use of telegraphers troubled with telegrapher's cramp.
It is operated by the handle, which may be set in any position convenient for the hand which grasps it.

A soft spring contact is used on the end of the lever **a**, consequently there is no jar on this key as there is on other keys that have solid contacts, and the tension on the lever may be adjusted by means of the spring **b** and the knob **c**.

The circuit-breaker is controlled by a knob projecting at the point **e**, from the front of the key, consequently it cannot be shown here. The Twentieth Century Key is used in combination with the ordinary key by inserting the wedge **d** in the circuit-closer springs of the ordinary key.

Illustration and text taken from: Elementary Telegraphy, published for International Correspondence College, USA, 1911