Number 74 – March/April 2001

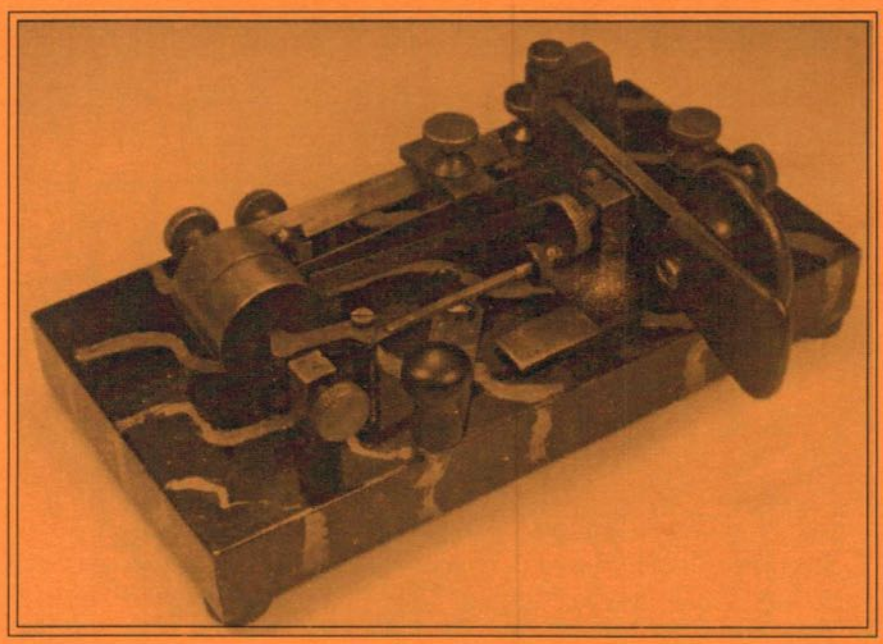
Flying the flag for Morse

Morsum Magnificat

ISSN 0953-6426

£2.75

The Morse Magazine



1909 Mecograph

The International Journal of Morse Telegraphy

Flying the flag for Morse

Morsum Magnificat

EDITORIAL AND SUBSCRIPTION OFFICES:
Morsum Magnificat,The Poplars,
Wistanswick, Market Drayton,
Shropshire TF9 2BA, England.
Phone: +44 (0) 1630 638306
FAX: +44 (0) 1630 638051

MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. It has been produced four, then six times a year in Britain since 1986, and up to January 1999 was published and edited by Tony Smith, G4FAI and Geoff Arnold, G3GSR. 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.

EDITOR: Zyg Nilski, G3OKD

e-mail: editor@MorseMag.com MM home page – www.MorseMag.com

Printed by Hertfordshire Display plc, Ware, Herts

ANNUAL SUBSCRIPTIONS (six issues):

UK £15.00 *Europe* £17.00 *Rest of the World* £20.00 (US $35 approx)

All overseas copies are despatched by Airmail

* Prices in US dollars may vary slightly with currency exchange rates and commission charges

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"When does my subscription expire ...?"

This is printed on the top line of the address label.
Also, we shall jog your memory with a renewal reminder included with that final issue.

MM Back Issues

Issues Nos. **34,35** and **38–73** available from the Editorial offices (see top of page). Price including postage £2.75 each to UK; £2.95 to Europe; £3.25 (US $5) Rest of the World by airmail. Deduct 20% if ordering 3 or more.

FRONT COVER

1909 Mecograph. Mecographs were made from 1906 - 1913 by Benjamin Bellows in Cleveland Ohio

Photo/Collection: Dave Pennes, WA3LKN

Comment

This magazine was founded by Rinus Hellemons, PAØBFN who started the magazine in 1983 in Dutch. In 1986 he teamed up with Tony Smith, G4FAI to add an English language edition. After Rinus' ill-health in 1987, leading to his sad death in 1989, only the English edition continued, to the present time and without interruption

A radio amateur in Belgium has registered the name "Morsum Magnificat" with the Benelux trademark bureau and is using it as the title for a new Morse magazine in the Dutch language. He has copied the cover and style of Rinus' original MM, a style well-known to those readers who took the English edition in its earliest days. Due to the existence of a web site for this other magazine, there is now a risk that newcomers looking for information about MM on the internet may find this site and decide that MM is no longer published in English or conclude that the two publications are in some way connected.

This magazine will continue as normal but it must be stressed that there is no editorial, business or any other connection between the Belgian-registered Morsum Magnificat and this magazine. No responsibility can be accepted for the editorial policy, opinions, products or any other activities of the Belgian publisher.

New societies, organisations and publications which stimulate interest in Morse are to be welcomed but two unconnected publications with the same title can only lead to confusion and misunderstanding.

Zyg Nilski G3OKD

Contents

Adverts

News

RSGB Morse Test Service – 15th Anniversary Weekend

County Morse test teams will again be on the air during the 15th anniversary weekend of the Radio Society of Great Britain's Morse Test Service on the 12th & 13th of May 2001. For ease of identification, all stations will use a special event GBO prefix, followed by the county code suffix; e.g. the Isle of Wight will use the callsign GB0I0W and London GBOLDN. The Chief Morse Examiner will use GB0CW and the Deputy Chief Morse Examiner GB0MTS.

There will be a minimum of 27 stations active and a Morse Test 15th anniversary certificate will be available to any amateur who makes contact with at least 10 of the GB stations. The cost of the certificate is £2.50 (cheque or postal order made out to RSGB), $5 or 6 IRCs. Applications should be sent to the Chief Morse Examiner, David Waterworth, G4HNF, 116 Reading Road, Woodley, Reading Berks. RGS 3AD. QSL cards are not required to claim the award, which is also available to listeners.

Activity will be concentrated in the 80 and 40 metre bands and in order to encourage newcomers to apply for the award each team will spend some time calling slowly in the Novice CW section of the 80 metre band, above 3560 KHz.

The event is not a contest and examiners will be happy to reply at any preferred calling speed. There are no restrictions on the type of Morse key used, all are welcome to call in and enjoy the friendship.

(David Waterworth G4HNF Chief Morse Examiner)

Collector's Vibroplex Brand New

Morse Express recently picked up five of these, with serial numbers between 65086 and 65647. They are BRAND NEW, in the original box, with the original documentation.

The price is exactly the same as a new Original direct from Vibroplex at $159.95. But they were made in the late 1980's, so the tooling had that much less wear, and the machining is that much more precise. And they carry the Portland Maine address on the label.

They're shown on the Morse Express Collectors' Corner page at http://www.MorseX.com/ccorner or contact: Morse Express, 3140 S. Peoria St. Unit K-156, Aurora, CO 80014 USA. Tel: +1 (303) 752-3382.

Control Your Computer With Morse Code

A Morse code user interface has been developed for PCs running the Linux operating system. It was originally designed for disabled persons but it would also function well for those who don't like using a keyboard or just want to practice their code.

There is a web page for this software at the following URL. http://pehr.net/morseall/ or e-mail Pehr Anderson located in Cambridge, Massachusetts at pehr@pehr.net

New Key From the Ukraine

CT Ham Radio Devices in Ukraine has release a new straight key, the CT-6 Deluxe. This is a key for the connoisseur! Polished brass on a beautiful mirror bright chrome base, the CT-6DX combines the keying ease of a true "lever" key with the elegant simplicity of modern design.

It's a BIG key, measuring 6" x 2-3/4" at the base and 3" tall to the top of the knob. It weighs in at a whopping 3 Lbs 3 Oz, so it will sit where you put it and stand up to heavy usage. The chromed base is a monolithic block of plated steel about half an inch thick with contoured edges.

The knob is the classic "round knob with skirt" that is typical of the European profile, and is very comfortable to handle. Connection is made via two large screw-tensioned blocks at the back edge of the key, but you could easily add solder lugs under the base if you want to conceal the wiring.

This latest creation from Anton and his staff at CT HRD is another step forward in quality machining and brass-work. It is available from Morse Express, 3140 S. Peoria St. Unit K-156, Aurora, CO 80014 USA. Tel: (303) 752-3382, Price $199.95 See it at http://www.MorseX.com/ct

Walvis Bay Radio V5W Closes

Bruce Morris, GW4XXF received information regarding the closure of Walvis Bay Radio, V5W. The message read:

= ALL CONCERNED ARE HEREBY OFFICIALLY ADVISED THAT THE 500 KHZ WIRELESS TELEGRAPHY SERVICE FROM WALVIS BAY RADIO/V5W WILL OFFICIALLY CLOSE DOWN ON THE 1ST FEBRUARY 2001 AT 0900 GMT. A SUITABLE CQ WILL BE BROADCAST ON 500KHZ, ANNOUNCING THE CLOSING DOWN OF WIRELESS TELEGRAPHY SERVICE FROM WALVIS BAY RADIO/V5W.
SUPERVISOR MARITIME RADIO SERVICES
WALVIS BAY RADIO
22/01/2001 +

From 26th January to 2359Z on the 1st February, V51ZSV - a special event CW-only ham station operated around

14.030, 21.030 and 7.030 kHz depending on conditions. The station was situated on the premises of Walvis Bay Radio, whose call sign had been ZSV until 1994 when it became V5W (hence the special event call sign).

(Hein Bertram, V51EK e.mail v51ek@hotmail.com)

CW Coast Stations Still Busy

Morse is not dead! Heinrich Busch, located in Northern Germany, monitors coast station CW activity. Between 28th February and 3rd March, 2001 the following stations were heard:

Freq (kHz)	Station
4241.0	4XZ / Haifa_Navy
4253.3	TAH / Istanbul
4259.0	XSG / Shanghai
4273.5	SAA / Karlskrona
4284.5	A9M / Bahrain
4292.5	IAR / Rome
4320.0	IAR / Rome
4331.0	4XZ / Haifa_Navy
4343.0	RLK
6357.0	SAA / Karlskrona
6379.0	4XZ / Haifa_Navy
6388.0	AQP
8441.0	??
8448.0	A9M / Bahrain
8450.0	5AB / Benghazi
8454.0	A9M / Bahrain
8484.0	HLF / Soeul
8496.0	CLA / Havannah
8530.0	IAR / Rome
8530.0	9VG / Singapore
8570.5	UWS
8573.0	CLA / Havannah
8600.0	XSV / Tsientsin
8602.0	CWA / Cerrito Radio
8605.0	??
8610.0	UCE
8624.0	XSQ / Guangzhou
8634.0	VTG / Indian Navy (Goa)
8636.0	HLW / Soeul
8650.0	SPE
8662.0	TAH / Istanbul
8665.0	XSG / Shanghai
8670.0	IAR / Rome
8686.0	IRM / Rome Medico
8698.0	7TF / Algier
12673.5	CLA / Havannah
12698.0	A9M / Bahrain
12709.0	A9M / Bahrain
12735.0	URL / Sebastopol
12771.0	7TF / Algiers
12772.5	5AT / Tripoli
12801.0	TAH / Istanbul
12808.6	VTG / Goa (Navy)
12843.0	HLO / Soeul
12916.5	HLF / Soeul
12923.0	HLW / Soeul
12939.0	SPE / Szczecin
12965.0	USO
12968.5	XSV / Tsientsin
12971.5	PKX / Jakarta
12973.5	UIW
12984.0	4XZ / Haifa
13016.0	IAR / Rome
13024.5	ASK / Karachi
13050.0	UDK
13060.0	UFJ
13062.0	CLA / Havannah
16910.0	HLJ / Soeul
16930.0	UVA
16932.0	7TF / Algiers
16961.0	CLA / Havannah
16993.0	UAT / Moscow
17021.5	TAH / Istanbul
17050.5	ASK / Karachi
17130.0	HLW / Soeul
17147.0	URL / Sebastopol
17165.5	CLA / Havannah
17175.5	A9M / Bahrain
17195.2	IAR / Rome

17206.0	IAR / Rome
17237.5	SAA / Karlskrona
22532.0	SAA / Karlskrona
22565.0	XSW / Kaohsiung Radio
22576.0	PKX / Jakarta
22597.5	SAA / Karlskrona
22610.5	CLA / Havannah
22611.5	HLF / Soeul

More information is available on Heinrich's web pages at:
http://home.t-online.de/home/hbusch/hfa1.htm
(Heinrich Busch
E-Mail: Seefunk@hbusch.de)

New Morse Magazine

Three well known hams have started a new Morse magazine in Dutch. It is called "HelleMonster" in memory of the late Rinus Hellemons who was the founder of the original Dutch Morsum Magnificat, which was also published in English when Tony Smith joined the editorial team in 1986. The English version continued after Rinus Hellemons' sad death.

The editorial team comprises Monika, PA3FBF – Editor; Thea, PA3HBP – Administration; Gerard, PA3AAE – Writer; Maroeska – Cartoons; Paul, PA3AQL – Webmaster; Pieter, PA3BWA - Legal and Financial advisor.

The costs are DFL 6.00 per issue or DFL 24.00 per year for 4 issue. For subscriptions or more information contact Thea Meijs, Achterweg 18, 3248 AA Melissant, The Netherlands. E-mail: thea@tomaatnet.nl

Visit the HelleMonster web site at: www.qsl.net/pa3aql/hellemonster.htm
(Information Pieter Lemmers, PA3BWA)

CW Transatlantic QSO on LF completed

On February 19th Laurence Mayhead, G3AQC and Larry Kayser, VA3LK completed a transatlantic QSO between the UK and Eastern Ontario on 136 kHz. The QSO began February 5th and was completed on February 19th with the reception of VA3LK's report by G3AQC.

The QSO was made using a visual adaptation of Morse, and using the visual signal receiving program ARGO. The dits were 90 seconds long, the dashes 180 seconds long. Both stations used homebrew transmitters and a mix of

commercial and homebrew receiving equipment. At these frequencies a wavelength is about 2200 metres long.

The effective radiated power at G3AQC was in the order of 350 milliwatts. To learn more about Amateur Radio on LF, got to the RAC website at http://www.rac.ca/infodx.htm *(RAC Bulletin)*

Canadian RAES Developments in Learning Morse

The Radio Amateur Educational Society (RAES) in Canada is currently working on a printed version of their Morse Code course. In the past they have used tapes and did not find this met the need of students who need more practice to overcome a rough spot. They are using the Koch research with additional input from Bill Pierpont and have devised a progression table and review session designed to assist the new student and rusty operator achieve a conversational speed of 25 wpm over a period of 12-14 weeks.

They use a combination of computer generated lessons with a student exercise work book to maintain their focus and chart individual progress. So far the results are good. It has been tried in various forms for the past three years with varying results. Now they are putting all the documentation together and running a very controlled experiment comprising:

1. Documented process
2. Individual exercise workbook coupled with defined computer generated lessons
3. Established monitoring points (weekly class review sessions)
4 Time Management, small progress steps based on individual daily effort, (nominal 1 hour per day):
   a. CHAR Learning Phase (Lessons 1 - 84)
   b. Abbreviations (Lesson 85)
   c. Q-Codes (Lesson 86)
   d. Small Words (Lesson 87, -5 char Groups)
   e. Call Signs (Lesson 88, Mixed Letter & Number Groups)
   f. Plain Language (Lesson 89, The story of the Titanic, Lloyds of London Press Ltd.)
   g. Final Exam (Industry Canada 12wpm Exam or RAES 25wpm exam)
5. Definable class goals (5 CHARS per week)
6. Weekly review sessions
7. Completion exam,
8. Graduation Certificate (Conversational Morse Code - 25 wpm)

They started off the experiment with 2 new students and have added four previous students. The previous students who have passed the Canadian 12 WPM exam all want to improve their proficiency and have found the new course a big help.

They use a computer-generated workbook using an Excel spreadsheet. Each letter has a square and if a letter is missed then a dot is placed in the square, per the recommendation

from Koch. The difference is that we the correct text on the following line. The text is kept covered until the end of the string.

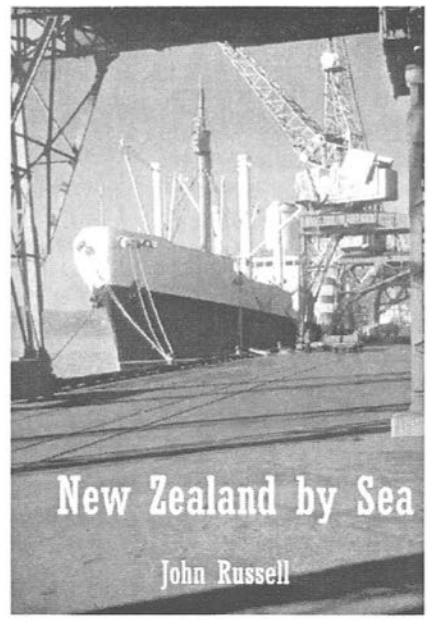
Students new and old, have found this very encouraging as they can see a direct relationship between the sent and received text. One of Bill Pierpont's suggestions was also to use it as a means of just following the text as it is being received. This idea was then taken a step further and it is sometimes used as a practice session to get the fingers used to writing the correct character as well as following the text. It helps to get the brain to tell the hand to write the correct letter with the correct sound.

They have been using the Super Morse program by M. Lee Murrah and have produced 84 lessons for the learning of the characters with additional lessons for Abbreviations, Q-Codes, Mixed Letters and Numbers (5 character Groups) and words (five character groups). A lot of the groups were taken from the book "The Morse Code" Learning and Practice by R. G. Shackel by Longmans Green First published in 1941.

(Dave Clarke, Radio Amateur Educational Society. E-mail: Dave.Clarke@telus.com)

New Zealand by Sea

John Russell was a Merchant Navy Radio Officer in the 1950s and early 1960s and has written this book of his personal experiences at sea, with a special focus on trips to and around New Zealand. He describes what it was like to be an R/O when merchant shipping was still in its heyday, starting with his medical examination at the Marconi East Ham depot through to many shore visits in New Zealand on a bicycle, which he kept on board ship. Laced with humorous encounters and richly illustrated with photographs of ships and places in New Zealand it is available from J. A. R. Partnership, 21 Landcross Drive, Abington Vale, Northampton NN3 3LR,UK.



E-mail: russell@landcross.freeserve.co.uk

Price: £11.00 – UK, £11.50 – Europe, £13.00 – World.

Wanted - articles and tips on making and restoring keys - contact *MM*

Marconi's Centenaries in 1999

MM has acquired a limited stock of a free 16 page booklet, courtesy of Marconi Communications, which commemorates the centenary of Marconi's achievements in 1899.

Compiled by Gordon Bussey, Historical Consultant to Marconi plc, it includes descriptions, photographs and copies of original documents covering The First Use of Wireless as an Aid to Ships in Distress, The First Wireless Message Across the English Channel, The First Use of Wireless in War and the First Use of Wireless to Produce a Newspaper at Sea.

There are two variations of cover picture, one a photograph of the SS 'St Paul', 1899 and the other of Marconi at his Wimereux Station with his assistant George Kemp in the same year.

The booklet is available to MM readers, while stocks last, for the cost of postage only, i.e. UK – an A5 sae (23cm x 16cm) with a 33p stamp; EU and World – 2 x IRCs or US$ 1.00 bill. Please state preference of cover picture.

MM Readers who purchase the new book, 'Marconi's Atlantic Leap' from MM Bookshelf, commemorating the first

Transatlantic wireless communication in 1901, will be sent the 1999 brochure automatically.

Centenary Celebration of Marconi's Milestone

A Special Report by David Barlow, G3PLE

On 23rd January 1901, Marconi received a wireless signal from the Niton Wireless Station on the Isle of Wight, a distance of 196 miles over the curvature of the earth's surface, at a wireless station constructed at The Lizard in Cornwall. A centenary celebration of this achievement took place on 23rd January, 2001 when communication between the same two points was replicated.

The Lizard Wireless station buildings were completed on January 18th, 1901, and five days later the station, with Marconi himself in attendance, was to receive signals from Knowles Farm, at St. Catherine's Point on the Isle of Wight a distance of 196 miles.

The equipment at Bass Point on the Lizard comprised a spark transmitter – 10 inch spark coil, spark gap, six Leyden jars, and a jigger connected to an aerial over 200 ft high. The coherer receiver had a Morse tape-inker attached. The installation was housed in a small hut located between the Lizard Lighthouse and the Lloyds Signal Station.

We know that Marconi was present since he sent a telegram from the Lizard Post Office to his cousin (and fellow Marconi Wireless Telegraph Co. Director) in Ireland. He wanted the reception kept secret.

After twelve years, during which the Lizard station was involved in many experiments conducted by Sir Ambrose Fleming, and was one of the first coast stations (indeed the first known coast station to receive the letters SOS) it was closed and the call sign GLD was moved to St. Just near Land's End. Many people do not realise that the letters 'LD' of this callsign originally stood for the word 'Lizard'.

The National Trust purchased the land in 1995 and did not realise that the badly dilapidated hut was the original Lizard Wireless Station. After surveys it was found that not only were substantial parts of the fabric original but that cupboards with hinges bearing the initials "GWR" were still inside. (The hut was originally owned by the Great Western Railway).

The National Trust and the Trevithick Trust got together and not only was the hut restored using matched paints from the early 1900's but the station itself was rebuilt. Mr. Ted Amor carefully made all the equipment using only materials available at the time of its original construction.

The centenary celebration was organised for 23rd January 2001 and it all started early in the morning when the BBC Radio 'Today' programme had a direct link with the station at 0725 hrs. The media had a field day. There were items on all TV channels in the UK and on ABC in Australia and CBC in Canada. Radio coverage was on many different stations from BBC Radio One through to Radio Five Live plus many local stations. They all turned up despite a force 9 gale blowing most of the day.

There were visitors galore and the hut was bursting at the seams when at 1630hrs contact was made with the Isle of Wight (from Knowles Farm) and the signals came through using spark!

Actually it was a recording which came over on 80m via SSB. On this occasion LD replied and Prof. Brian Cotton, Chairman of the Radio Officer's Association, sent the identical telegram that Marconi had sent 100 years earlier. This was also sent on a spark transmitter. The microphone was held an inch or so from the spark and at one point the person holding it received an electric shock from the apparatus.

A loud cheer followed the transmission, which was reciprocated by GB100GNI on the Isle of Wight. The moments were magical, - to recreate the events of one hundred years ago using identical equipment in the original building created an atmosphere of tension and delight. The emotion was intense and one has to say that the amateur band and amateur operators left the frequency clear for our important moment. (The one gate-crasher has yet to apologise).

Perhaps the best tribute came from Radio Cornwall when they repeated the report in their "Pick of the Week" programme with the introduction that it "was a live radio broadcast about radio which made compulsive listening.

For all of us there it was a day to remember and it is hoped that many Morse enthusiasts will take the opportunity of visiting the station when it is open during the Summer. If you hold a licence you can operate from GB2LD.

In this year of communications a visit to the Poldhu Amateur Radio Club, the Marconi monument, BT Goonhilly and the Porthcurno Museum of Submarine Telegraphy will make a holiday in Cornwall most enjoyable. There is also much to do for the rest of the family whether or not they are interested in radio and Morse.

The Radio Officers Association

Membership is open primarily to former MN radio officers but is also open to anyone who has had an association with maritime communications or is interested in the subject. Members receive the quarterly newsletter QSO and its associated amateur component QRZ. There is an annual reunion and AGM. 2001 sees the meeting taking place in Bristol. For further details and information please contact the Membership Secretary - John Russell, 21 Landcross Drive, Northampton, NN3 3LR.

Marconi Type 365 Keys

by Wyn Davies

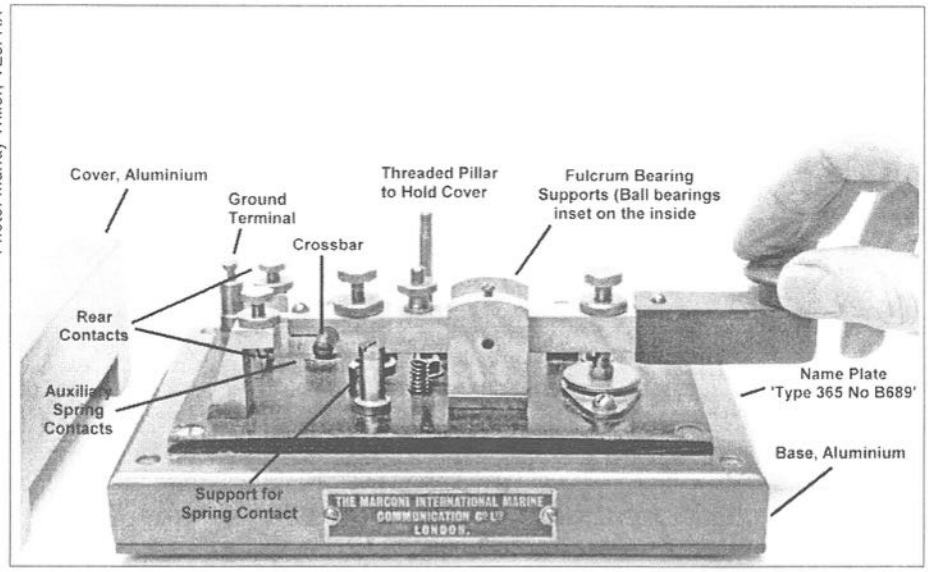
E-mail: wyn@eagletec.co.uk

THE MARCONI TYPE 365 series of keys, much beloved by many merchant marine Radio Officers has a long history. Sometimes referred as the 'Marconi Classic', this article is a compendium of information on the range of models. This is by no means complete and additional information which confirms or clarifies the history, design and use of these keys would be very welcome.

Type 365

The first model was the Type 365 (with no letter suffix). The exact year of introduction is unclear but first references to it seem to be in 1935. The bakelite sub-base was fitted onto an aluminium base, with an aluminium cover attached to the base by a threaded rod and a knurled nut. The fulcrum was supported by roller bearings countersunk into the inner walls of the assembly. The base and cover of

Photo: Murray Willer, VE3FRX

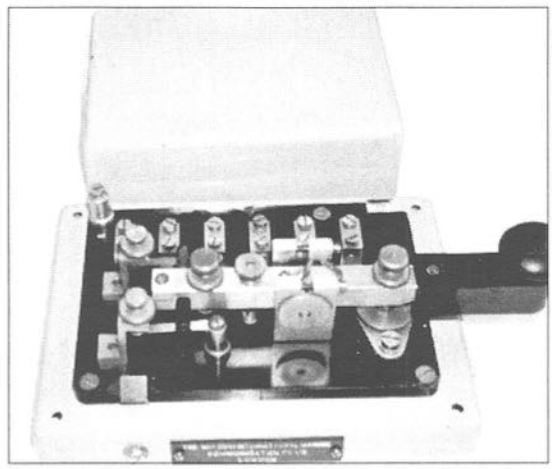


The first Type 365. It has no year designation. The first reference found to this version is dated 1935.

the later models were made of brass, probably because salt-laden atmospheres corroded the aluminium.

Model 365A

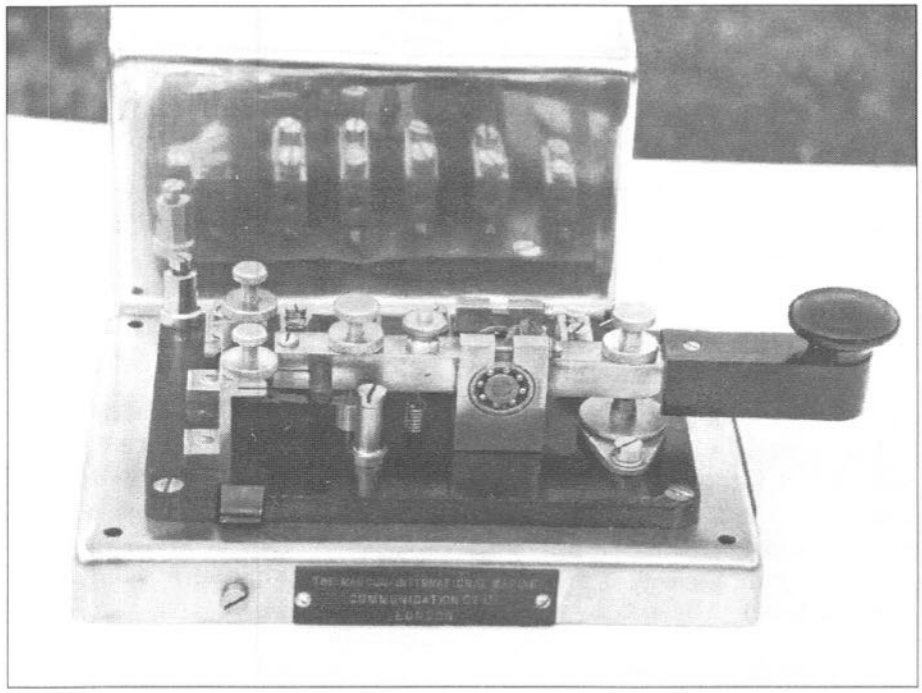
Next came the 365A, of which there were two versions, one with roller bearings and the other with sleeve bearings. They were painted in a variety of shades of blues and grey. It was common for Radio Officers to remove the paint and polish the brass. The cover was sometimes used as the radio room ash tray. The 365 and 365A models were fitted with auxiliary contacts at the rear to



Photo/Collection: Wyn Davies

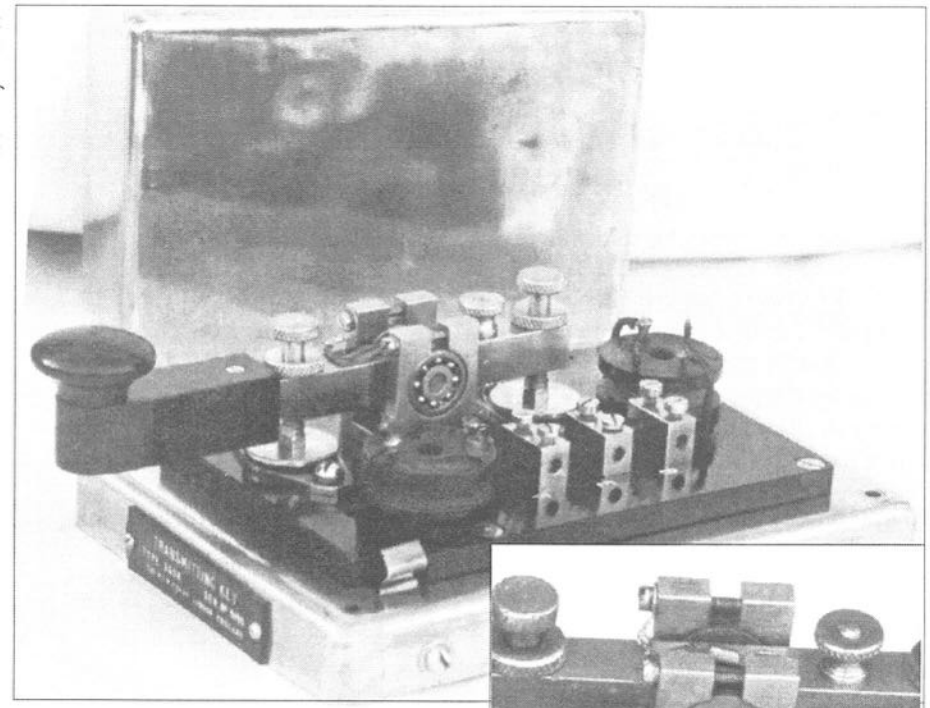
Type 365A with sleeve bearings.

Photo/Collection: Wyn Davies



Type 365A with roller bearings. The paint has been removed to reveal the brasswork.

Photo/Collection: Wyn Davies



Type 365B with roller bearings.

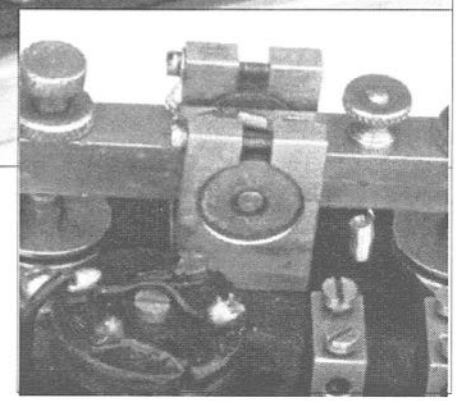
desensitise the receivers on 'key-down' and an earth post was fitted at the rear right-hand side of the base.

Model 365B

The 365B seems to have been introduced in the early 1940s. There is also reference to it an 'Oceanspan VI' manual of 1962. Again there were two versions, fitted either with sleeve or roller bearings. It was fitted with a key-click suppression circuit comprising two coils at the rear with capacitors and resistors under the base.

Sleeve vs Roller Bearings

Some people are of the opinion that early models were fitted with sleeve bearings and that the roller bearings were introduced later. Others believe that the keys were originally designed with roller bearings and that the sleeve bearings were introduced during WWII when there was a shortage of roller bearings.

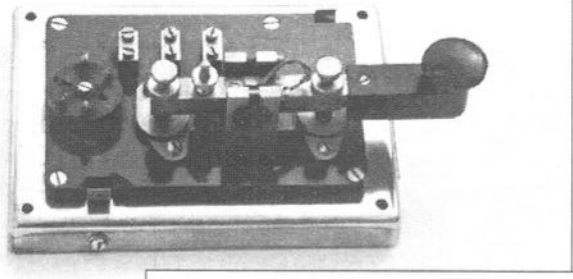


Type 365B with sleeve bearings.

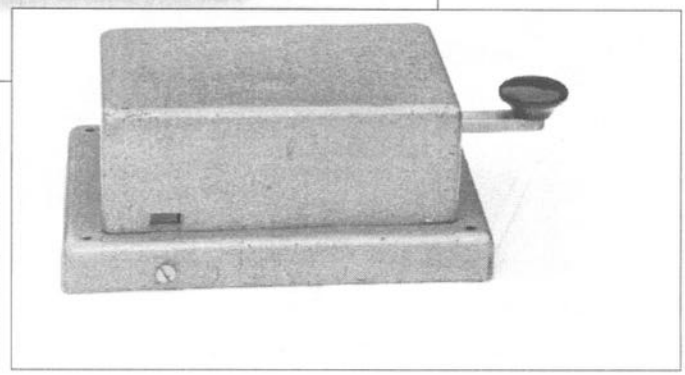
Type 971 vs 365 Keys

The Type 971 was introduced in the late 1940s and continued until the late 1950s but it proved so unpopular

Photo/Collection: Wyn Davies

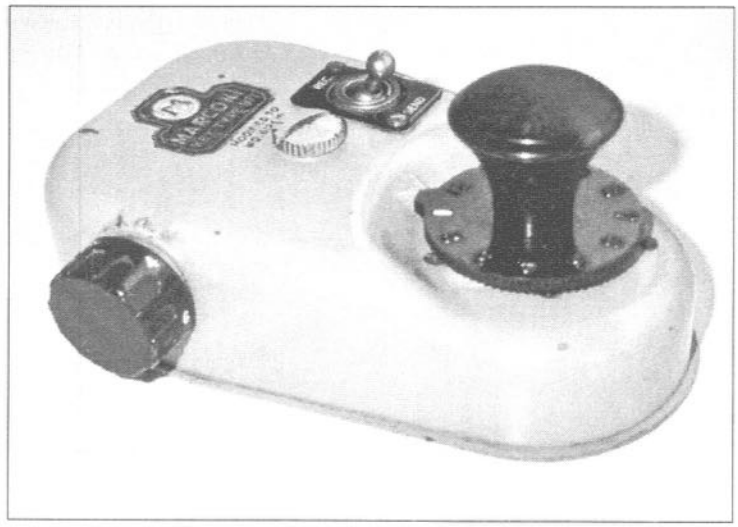


Type 365C – note that it has only one key-click suppression coil fitted.



Another version of the 365D – The D versions were possibly made from spare parts at the various Marconi depots.

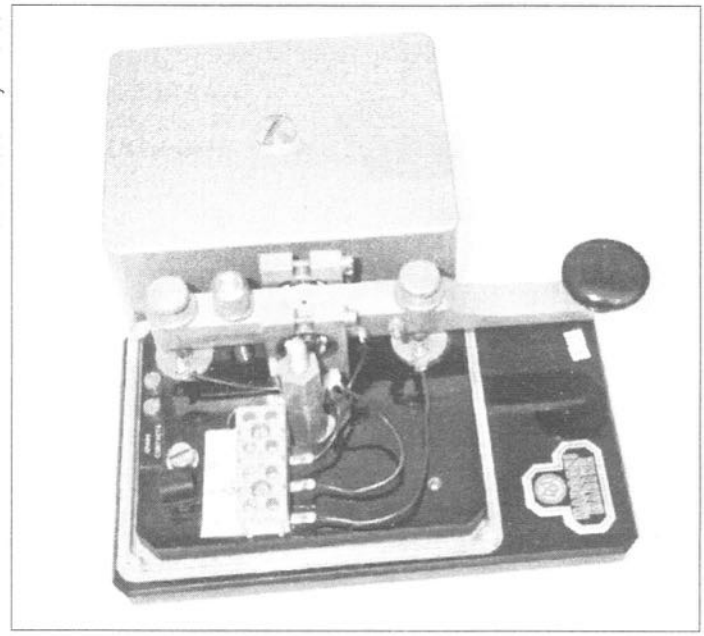
with Radio Officers that the Marconi Company had to bring back the 365 models. There was a shortage of the latter at the various depots and keys were assembled from spare parts, hence some keys were incomplete, i.e. no sleeve on the arms, one key-click suppression coil instead of two or no auxiliary contacts. Some believe that these keys were designated 365C and 365D but this cannot be confirmed.



Photo/Collection: Wyn Davies

The unpopular Type 971.

Photo/Collection: Wyn Davies



Type 365EZ and FZ – both versions are visually the same.

365EZ and 365FZ

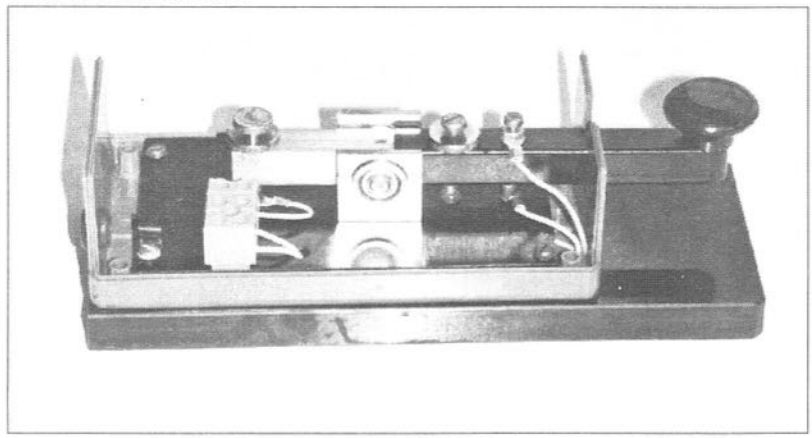
In the late 1960s Type 365EZ and FZ keys appeared but differences between the two models are negligible. An 'FZ' has been noted with only one coil fitted to the base. These models were fitted with a diecast aluminium cover made by the Eddystone Company.

Final Key

The final key made by the Marconi Company was the Type EZ50 but it lacked the 'feel' of the lovely 365s. ***MM***

(Special thanks to Geoff Arnold, John Francis and Murray Willer who contributed information to this article)

Photo/Collection: Wyn Davies

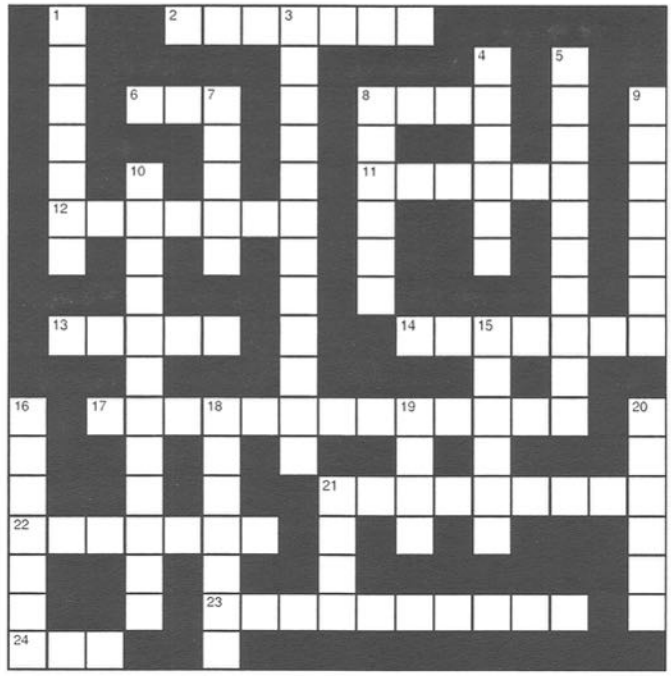


The final Marconi key, Type EZ 50 with the cover removed.

MM73 Searchword

by Tony Smith

(Find the answers to this puzzle in MM73. Solution p.48)



Across

2 Used in novel method of grouting metal to rock (7)
6 Its receiving station was at Pt. Reyes (3)
8 A Field Day Puzzle (4)
11 KC4AAC operated from here (6)
12 Mysterious last message (7)
13 Transmitter used on 7050 kc/s by KPH (5)
14 Central Trade School attended by Bob Shrader (7)
17 Cecil's royal visitor (6, 2, 5)
21 USA to recommend that all references to this be suppressed in Radio regulations? (5, 4)
22 Site of transmitting station of 6 across (7)
23 Lifeboat survival transmitter on ice (6, 4)
24 Maritime Radio Historical Society's on-air event (3)

Down

1 UFT protests "shame again!" about this event (4, 3)
3 Norwegian sideswiper? (12)
4 German key (6)
5 Marconi 1915 special apparatus actuated these by wireless telegraphy (3, 7)
7 A father figure of ARRL (5)
8 ANARE's first station on the Antarctic continent (6)
9 1926 Ohio location of 8AE (7)
10 Type of receiver used for MF and LF shipboard communications in 1930s (12)
15 Personal friend of Goyder (6)
16 Builders of Wilkes station (3, 4)
18 African location of VQ2TY (7)
19 Long aerial used to test first Mawson transmitters (4)
20 Trusty little bug (6)
21 Provider of MPTS (4)

Magic in 1924 - 2

by Dr Gary Bold ZL1AN

Continuing the story of the first ever two-way radio contact linking England and New Zealand, between Frank Bell Z4AA and Cecil Goyder G2SZ on October 18, 1924.

THE RECOLLECTIONS in this story contained in Part 1, when published in *The Morseman*, generated a lot of interest, especially in the equipment used. In 1924 everything was difficult to obtain. A very few 'Audiotron' valves were apparently brought over by enterprising American maritime operators as early as 1919, and sold to experimenters for £2.10.0 But it wasn't until 1923 that the official ban on amateur wireless was lifted here in New Zealand, and early samples of Radiotron's 'UV' series began to arrive. Bell almost certainly would have used these.

Alan ZL4PZ sent me scanned copies of schematics, drawn by Bell himself, of what is thought to be his first receiver and transmitter, dating from early 1923. In those days, such drawings had to be submitted to the suspicious Post Office before they gave you a licence.

The Transmitter

Fig.1 shows the transmitter circuit. To aid my commentary, Ian, ZL1UI, lent me his valuable second edition of the

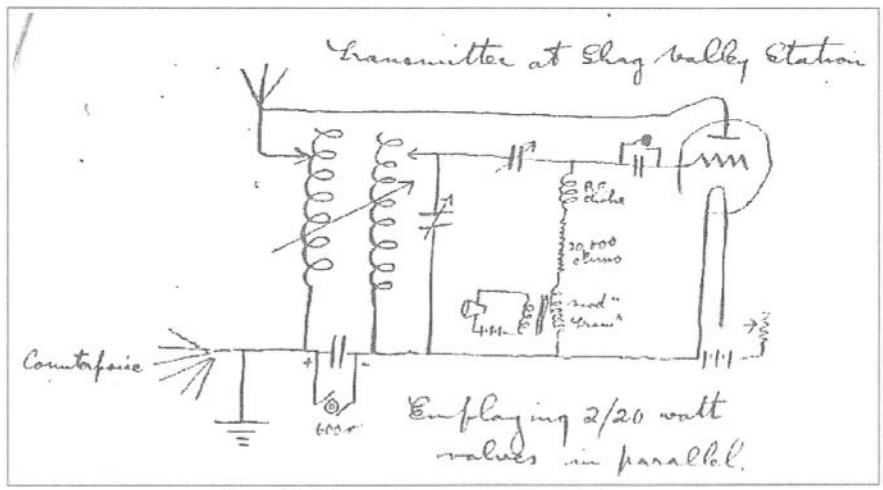


Fig.1 - Early transmitter drawn by Frank Bell.

ARRL Handbook, published in 1927. This was written by F.E. Handy, the father figure of American Hamming. This manual gives a fascinating description of the equipment used in those days.

Handy had strong opinions, and disapproved of voice communications. After describing transmitter circuits, he makes the comment: "The sets shown are for telegraph work. A radiophone transmitter is not nearly as practical or useful. A telephone set will be more expensive, create interference, take more power to cover any distance, static will interfere more with reception, and it must be more complex to be decently good (sic). If you *must* experiment with voice work, make a few changes to give a pure direct current plate supply and a means for voice modulation. However, why turn a good telegraph set with a range of one to ten thousand miles into a mediocre radiophone outfit which will seldom reach more than fifty miles? Less than one in every hundred stations is interested in two-way voice transmission."

Early modulation methods were indeed primitive. You can see a microphone, probably carbon, and a modulation transformer in series with the grid leak resistor used for self-bias. Bell's circuit was probably typical, and would have produced an egalitarian mixture of AM and FM. The distorted speech produced would certainly be derided by dedicated telegraphers.

Bell's log states his 1924 transmitter to be a '4 Meissner'. But this is not the original Meissner circuit, which had a single tuned 'tank' circuit with two additional feedback windings connected to the grid and plate respectively. So this may not be the circuit he used for the famous QSO, or perhaps Frank was wrong in his description.

The Meissner circuit has since sunk virtually without trace. Handy describes it as '..flexible, having grid, plate and antenna circuits magnetically coupled together.' This is certainly the case in the circuit shown - in contrast to the classical Colpitts and Hartley circuits, also known at this time, where feedback is applied via a capacitive voltage divider, or by tapping across a coil. It was thought to be 'flexible' because the spacing, orientation and position of the three windings could all be varied.

Considerable Chirp

The aerial and plate are at ground potential, with the filaments at -600 volts. 'Cathode keying' was known at this time, but here the Morse key appears connected across a capacitor in series with the grid! Opening the key would certainly stop oscillation, and current through the key when closed would be small. However, the key sits at -600 volts with respect to ground! With wooden breadboard construction, inside a wooden room, I guess that wouldn't have been a problem. This transmitter would have had considerable chirp, but then, so did all the others.

The horizontal variable capacitor and 20,000 ohm grid resistor provide 'grid-leak' biasing. Initially, the capacitor is uncharged and signal causes it to go positive with respect to the filament. This causes grid current, charging the capacitor, pulling the grid negative and providing an average bias voltage. The resistor continuously bleeds charge away,

so slight grid current is drawn at each positive-going waveform peak to maintain it.

The result is a self-regulating bias system still used 75 years later. And as usual in those days, a variable resistor in series with the filament supply enabled the correct filament voltage to be set, or to vary the valve gain if necessary. A 'counterpoise' was thought to be necessary for efficient radiation. This was probably another length of wire about half a wavelength long.

Aside: The first paper on crystal-controlled oscillators was still to appear (Pierce published it in 1926) and all transmitters in Bell's time used VFOs. Once this appeared, Hams immediately recognised the superior stability and purity of the 'crystal note', and the golden age of crystal controlled transmitters started. Later, with improved technology, we all went back to VFOs. The wheel swung full circle. Crystals are still in there, providing references for the phase-locked-loop synthesizers we use, but many still prefer the lower phase-noise, greater dynamic range and 'clarity' of non-synthesized receivers, and at least one manufacturer (Ten-Tec) still produces them.

Close Coupled Hartley Circuit

Another legendary ZL Ham, Jack Orbell, arrived in England by ship on the very morning of that first contact. He wrote in *Wireless World* of November 5, 1924 that "Z4AA, whose station I know personally, is using from 100 to 150 watts in a close coupled Hartley circuit". However, this is neither the original circuit that Bell drew, nor the 'Meissner' shown here. However the pioneers were continually changing their circuits, and perhaps he knew that Bell had now switched.

The Receiver

See Fig.2. The legend underneath the schematic reads: "employing loose coupler, 1 high frequency, detector, and 1 or more low frequency valves, and capacity reaction between first grid and second plate. For long waves a simple A.T.I. and tickler is used".

There are FOUR frequency selective controls - the separate variable capacitors in the primary and secondary aerial circuit, and the two *variometers* in the plates of the first and second (rf) stages. Each variometer would have consisted of two coils coupled by mutual inductance. The orientation of one was rotated to change the effective inductance. Together with stray capacitance, each variometer would have acted as a low-Q variable tuned circuit, and would not have needed critical adjustment.

The superheterodyne principle was demonstrated in 1917, but receivers employing it didn't come into general use until well after Bell's time. This is a TRF receiver, and all the RF amplification is supplied by the first two stages. This was enhanced by regeneration (positive feedback) applied via the variable capacitor from the second plate to the first grid. When just below the verge of oscillation, both gain and selectivity were immensely enhanced. For CW reception, feedback was increased still further until the first two stages oscillated weakly, a few hundred Hz from the incoming signal.

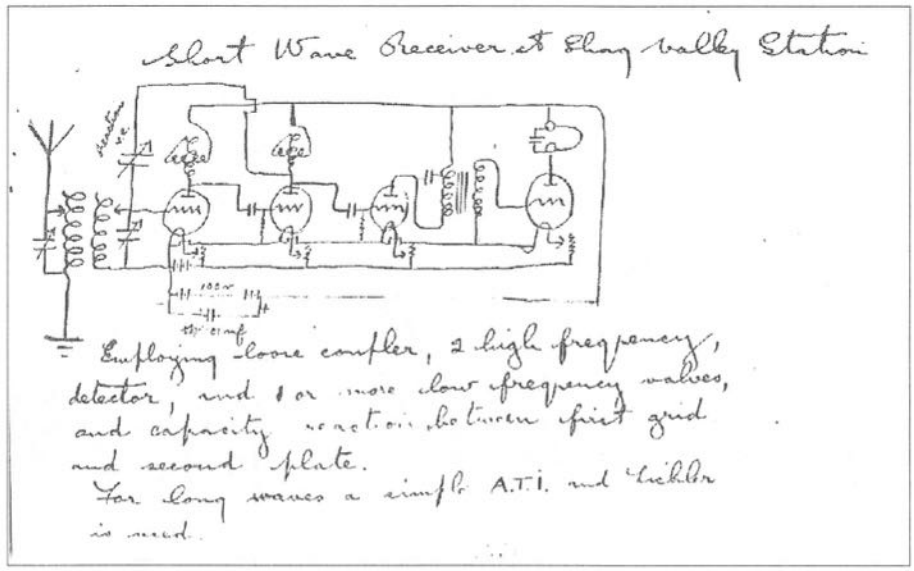


Fig.2 - Early receiver drawn by Frank Bell.

Not to be Scorned

The resulting summed, amplitude modulated, signal was rectified (detected) in the third tube to extract the modulation, and amplified for headphones in the fourth. The two RF stages both amplified the signal and acted as a beat frequency oscillator (BFO). Later, these two functions were separated into different stages. Later still, came the product detector we now universally use, and which operates on a different principle (multiplicitive instead of additive).

The second and third stages use grid-leak biasing, possibly with different RC time-constants, but the first and fourth tubes are shown with no bias whatsoever! The formal tube parameters 'mu' and 'gm' and 'optimum bias conditions' had not yet been defined, and anyway these tubes had modest performance. The experimenters needed all the gain they could get.

Let nobody scorn these primitive, unsophisticated circuits. For their time, they represented the state-of-the-art. We should rather marvel at the operating skill and tenacity of those early Hams who performed such astonishing feats with them. It would be fascinating to re-create these circuits and investigate their performance - has anybody out there done so?

The Goyder Lock

Later, Cecil developed the 'Goyder Lock' circuit, which Baz ZL4OK, tells me has been referred to from time to time over the years by Pat Hawker G3VA in his Technical Topics column in RadCom.

"It was a technique used to stabilise power oscillators by locking them to a lower power xtal oscillator. A further advantage was that the power oscillator

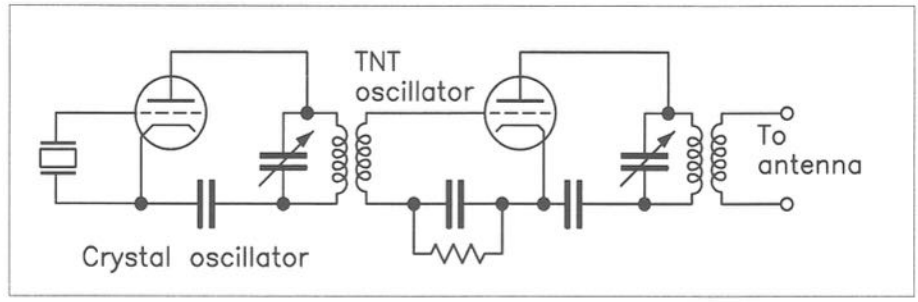


Fig.3 - Variant of the Goyder Lock

could be locked to harmonics (or subharmonics) of the xtal giving stable oscillations on higher frequencies. Clearly this was an intermediate technology prior to the oscillator-multiplier string technique that became standard from early 30s through to late 50s or beyond."

Has anybody a reference to the original Goyder Lock circuit? Scan your musty tomes, ye elders of the tribe who are advanced in years, and tell us, if you can.

What Happened to Cecil Goyder?

Cecil went on to make radio his profession. On graduating from London University he worked for ITT, first in London, then Paris. In 1934 he joined the BBC's research department. In 1936 the Indian Broadcasting system appealed to the BBC for technical help, and Cecil was seconded there as Chief Engineer of *All India Radio*. He remained in India for ten years, and was responsible for the development of the Indian Broadcasting System.

His accomplishments included the training of 300 Indian engineers and the establishment of broadcasting stations, transmitting installations and receiving centres in eight Indian provinces. This gave India one of the finest broadcasting systems in the world. In recognition of this, he was awarded the CBE in 1946.

On his return to England, Cecil found the climate "hard to take" and stayed there for just one year. In 1947 he joined the University of Florida at Gainsville, undertaking research work in connection with electrical and seismic disturbances. In 1950, he moved again, becoming the first communications officer of the United Nations in New York. He was responsible for the design, installation and testing of all electronic installations, including the famous multi-language interpreter network at the UN's permanent headquarters. During the Korean war, he was posted to Korea to establish the UN's independent communication facilities.

Retiring from the UN, he was invited by the British Overseas Airways Corporation to design and supervise the installation of its passenger computer system. This system was so successful that it was later sold by BOAC to Japanese Airlines.

He retired for the last time in 1971, and lived in Princeton, New Jersey until his death due to a motor accident near his home in 1980. Thus passed a man who

not only starred in one of the world's golden Ham QSOs as a youth, but continued in his adult life to leave an indelible mark in professional radio communications.

Acknowledgments

Almost all of the factual information I've given here about Cecil Goyder appeared in a series of articles written by Marshall Killen VE3KK, published in *The Kilowatter*, journal of the Kitchener-Waterloo Amateur Radio Club (www.kwarc.org) in 1985 and subsequently reprinted in *The Canadian Amateur*.

Permission to reproduce it was given by Paul Cassel VE3SY (ve3sy@kwarc.org) on behalf of the club. This was arranged on our behalf by Tony G4FAI. Thanks also to Bob VE7BS, who helped track down missing parts of the story.

One final note. Marshall relates in a footnote to his series that Cecil's brother, Claude, gave him access to Cecil's personal papers. These included many letters from Frank, Z4AA. In one, Frank commented "how fitting are our initials. Mine are *FB*, and yours are *CW*."

(Adapted and edited for MM from Gary Bold's *The Morseman* column in *Break-In*, journal of NZART. ***MM***

Repairing German 'T1' Keys

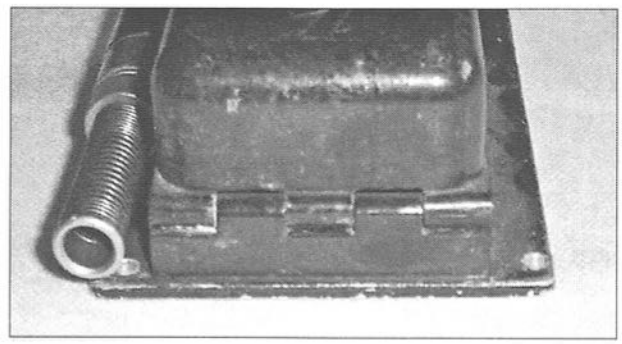
by Henri Heraud, F6AOU

After many years of storage this nice efficient key often suffers from rust on the steel pin of the hinge which holds the bakelite cover to the base, causing it to seize up. Attempts to force the cover or extract a pin in this condition can result in fractures to the brittle bakelite of the cover and base.

In my experience simply soaking the seized area with penetrating oil is ineffective. If this is the case then drill 2 or 3 holes of 1 mm diameter in each bakelite part of the hinge and fill with penetrating oil. The holes must reach the steel pin so that the penetrating oil can de-oxidise the rust.

It may take some time to loosen the hinge pin and more oil should be added as necessary until the pin is easily removed. After cleaning and greasing the pin, the cover can be reassembled to the base.

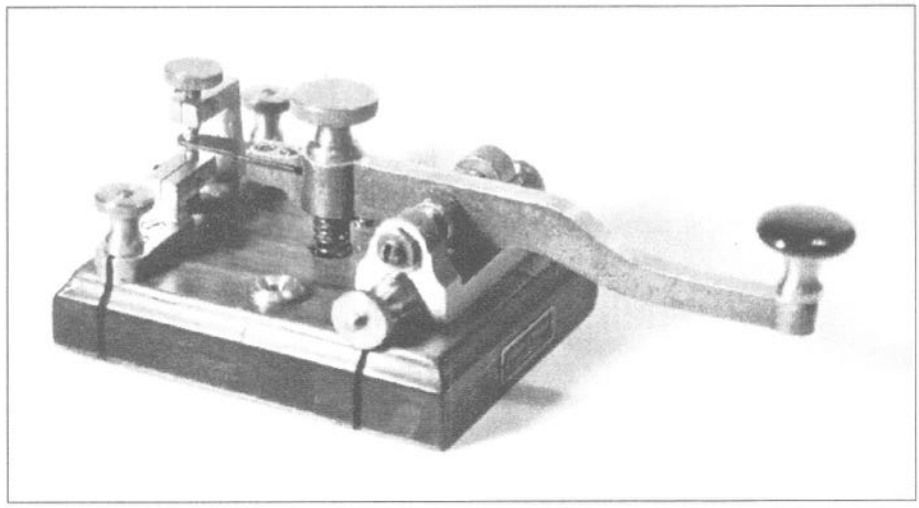
The holes can then be refilled a mixture of bakelite powder and epoxy-resin adhesive such as 'Araldite'. ***MM***



Showcase

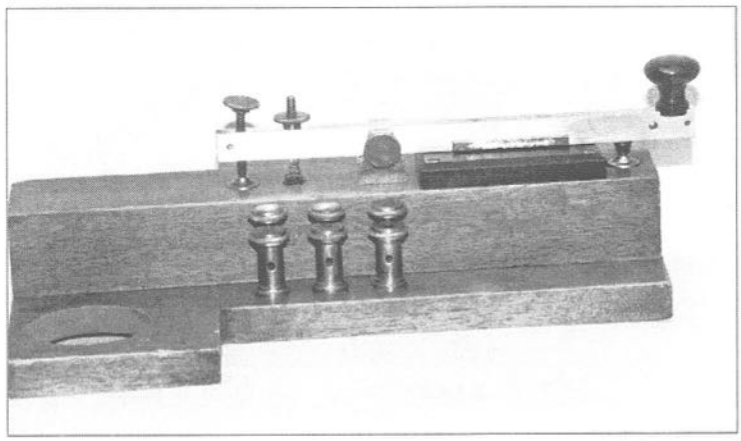
Readers are invited to contribute any additional informationand stories, no matter how minor, to the Editor, Morsum Magnificat. There have been thousands of designs of keys & telegraphy instuments. Information will be lost unless it is compiled in one place and shared with other readers.

Photo/Collection: Ingrid Moller, N7LQB



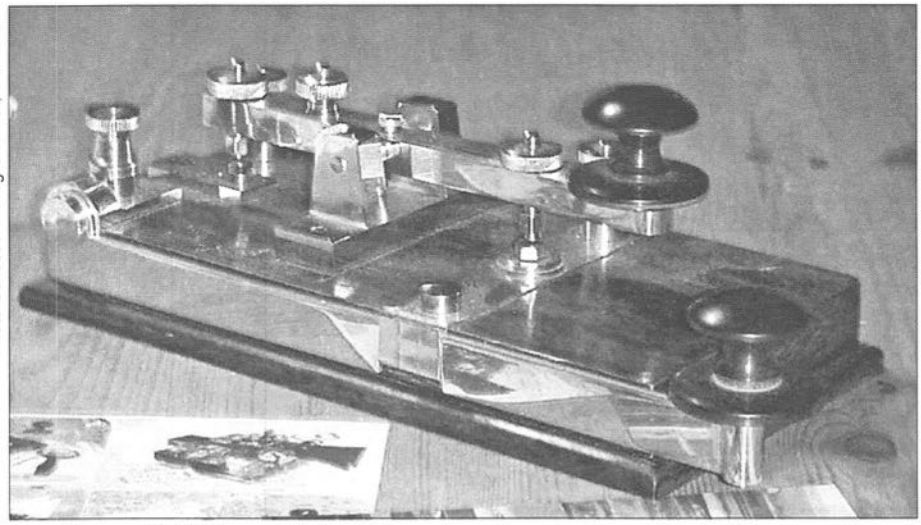
A 'short-style' Öller key. It was used on a private railroad into the 1930s and was manufactured by Lindholm and Wikstrom about 1891. They were Öller's foremen and took over his shop after he died. They added a label with their names on the front of the mahogany base Öller's lifetime.

Photo/Collection: Jacob Henri, F6GTC



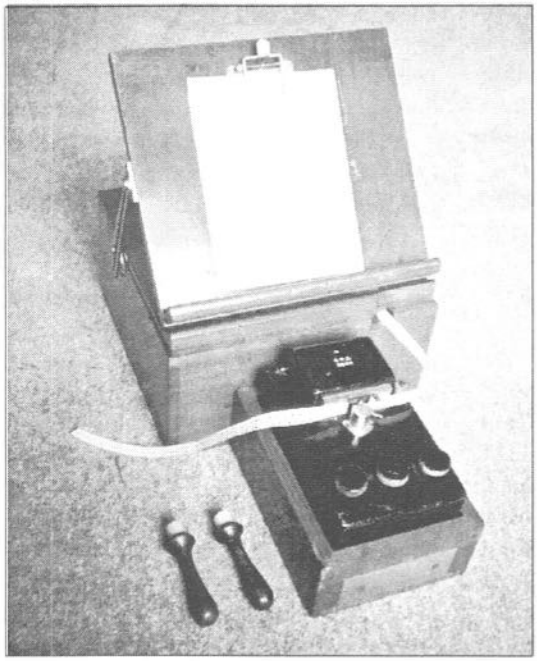
An interesting solid brass key on a wooden base; attached to the long arm is a piece of iron under which are two magnetic coils. Does this mean that the key was also used as a repeater.

Photo/Collection: Greg Ulsamer, DL1BFE



Greg Ulsamer, DL1BFE owns this beautifully made replica of the Marconi Manipulating Key of the early 20th century. It is the type used with the 1½ - 5 kw spark transmitters used by ships at the time, including the Titanic. Note the side-lever for isolating the primary power supply. This replica was made by Valery Pavlov, RA1AOM from an original in the archives of the Alexander Popov Museum of Communication in St. Petersburg. The Museum was founded in 1872 as the Museum of Telegraphy but has been closed to the public since 1974. Greg has a second copy, which is for sale. See Reader's Ads.

Photo/Collection:Ken Lloyd, G3XTP



A Model 3340 Tape Perforator for a Wheatstone High Speed Telegraph. It is also marked with the 'crows foot' arrow of British military ordnance.

Morse Keyboards

by Dr Gary Bold ZL1AN

MORSE KEYBOARDS are typewriter-like, which send, Morse, whatever you type. They've been around since 1910, when an American company produced a clockwork-driven model with a 73 character memory. But they didn't appear in main-stream Hamdom until the early 1960s, when experimenters initially built them because of the interesting technical challenge. Commercial units are now available (the TONO is an example). Purists revile them. Enthusiasts love them.

The exceptionally Morse-gifted use them to send faster than is possible on a keyer. (I first heard 65 - 80 wpm keyboard QSOs in 1977, when I was living in Michigan - keyboard-sent, but all copied in the head). Some who now find sending painful or impossible because of arthritis adopt them to continue with the mode they love. Some use them because they lack the timing sense or muscular co-ordination to send beautiful Morse any other way. Some can't spell with a standard Morse key. Some just enjoy the way a QRQ conversation flows more freely on a keyboard.

I like them. I home-brewed the first of several keyboards in 1978, ending up with a 32 character type-ahead buffered version by Russell Kron, WB9WRE. After home computers arrived, I coded a software Morse keyboard for Commodore-64s, then for PCs. I used the PC version (MU) until a year ago, when Sergei, UA9OSV released the superb *CwType* (see MM67, p.17. Ed.).

Sergei's software is so good, you might wonder anybody would *want* a hard-wired keyboard. There are several reasons. Firstly, you may not own a computer. Secondly, if you do own a computer, it probably generates some RF hash somewhere, masking weak signals, or puts birdies on top of rare ones you want to work. Thirdly, you can take a keyboard with you for portable operation, as I intend to take the one I now review.

The K1EL K20 Keyboard Kitset

Steve, K1EL, is a PIC microcomputer coding virtuoso. He developed the excellent K9 and K10 keyer kits, which I use and recommend (see MM72, p.18. Ed.). He's now released his K20 Morse keyboard kit. I was a beta-tester, and have the privilege of writing, and you that of reading, the first review. You can only order Steve's kit from his website, at http://www.k1el.com

The circuit schematic is shown in

Figure 1. This is reprinted from the excellent 17-page manual, which contains detailed assembly instructions. You download this from the website as a PDF file, and print it yourself. This means that Steve has to mail only a small, cheap packet, and you get as many copies as you want of a full-sized, readable manual. Anybody can download the manual! Check it out!

What you get when assembled is shown in Figure 2. All components come with the kit. The very professional PCB measures 66 by 45 mm, with the positions of all components outlined and named on the top side. There are three socketed 8-pin chips. Two are pre-programmed microprocessors (PIC 12C72) and one an EEPROM. The cylindrical object in the foreground is the piezo-electric audio beeper. The keyboard socket is at top left, facing away. A voltage regulator mounts vertically at back right.

Assembly is straightforward. Simple tools, a small soldering iron, moderate intelligence and an evening's work are all that's required. Once completed, plug in a standard PS-2 keyboard. Used ones are often obtained at Hamfests or computer repair shops. If you can't find one with a PS-2 connection, buy an adaptor, as I did. But *don't* use an older, "XT" style keyboard. The connections are different, and may kill the electronics. Connect the power leads to an 8 - 18V *DC* supply, connect the "key" output to the keying input of your transceiver, and start typing. Everything you type will be sent as perfect Morse. Change sending speed in 1 wpm increments with the "up" and "down" arrow keys. To begin with, that's all you need to know!

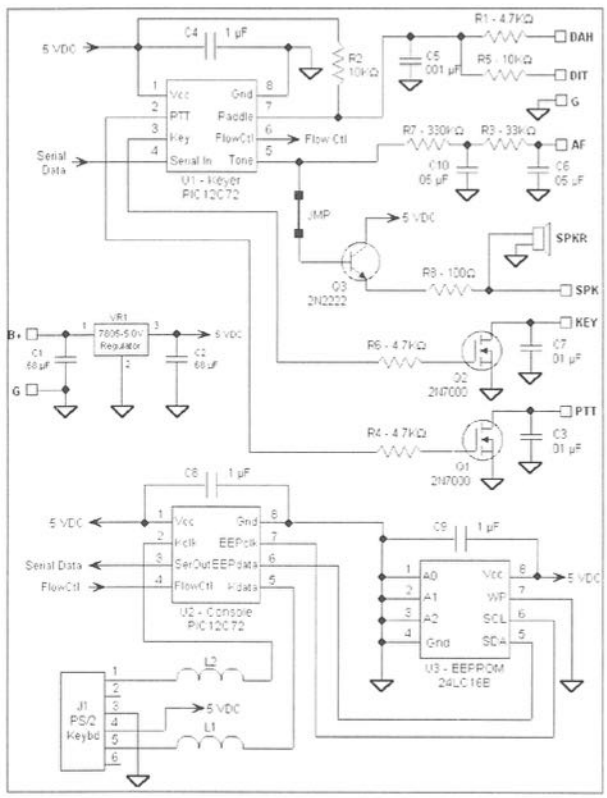


Figure 1. K20 schematic

Every keyboard I tried worked, but their power drains varied markedly. Steve has a compact, laptop sized model which draws under 5 mA. Older ones draw much more. Several I've tried draw

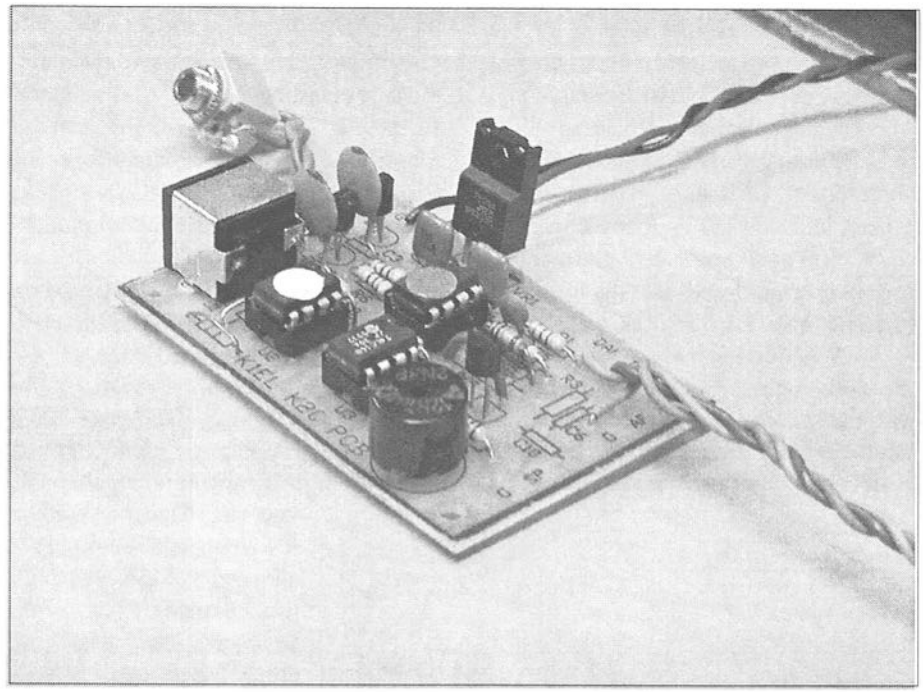


Figure 2. Assembled K20

between 50 - 120 mA (!!) quiescent, about 20% more when active. This isn't really a problem even when running portable from batteries, as the rig will draw much more than this. However, if you have several, you might as well choose the lowest powered one.

The speed range is 6 - 99 wpm, with optional 18 wpm Farnsworth spacing. You can also adjust the character spacing in units of one tenth dit-time. Great for running practice sessions, or talking to new ops!

As well as changing the speed with arrow keys, you can set an exact speed from the keyboard. The speeds are correct (I've checked with my calibrators). Positive or negative weighting can be set in 1 ms increments - excellent for those transmitters that clip elements. The main keyboard type-ahead buffer holds 200 characters, so there's little chance you'll overflow. You can disable sending while you fill the buffer (if you're clever enough to read the other guy and type at the same time). Eight standard pro-signs and Q-codes are pre-programmed, For example the ">" key is mapped to "SK", and "[" is mapped to "QRZ". You can define others yourself.

There are twelve user-programmed message buffers. Eight general-purpose ones each hold 200 characters. You can load various CQ calls, station or contest information etc into these, and send them in any

combination by simply pressing function keys. A great boon for the callsign exchange.

An on-board, variable frequency audio side-tone can be enabled or disabled, with optional speaker output. Contesters are provided with a wealth of features. You can set up any serial number, and send it by pressing "ctl/N". To increment or decrement it, press '+' or '-'. You can set up one or more "fast speed changes" with single keystrokes. Complex texts can be sent using a "buffered command language" which allows looping, inserts, timed pauses, speed changes, and repeats - too sophisticated to describe fully here. This is also ideal for beacon signals.

The Electronic Keyer

There's more. You'll see three wires coming from the bottom right of the PCB. Connect a standard paddle to these and you have an electronic keyer, running at the same speed as the keyboard! Using keyboard commands, you can set either iambic A or B timing, toggle autospace on or off (a wonderful feature, leave it on), swap the paddles, or invoke "bug" mode - where the dit paddle acts normally but the dah paddle makes manual dashes.

Steve has also implemented a paddle "sensitivity" adjustment, which neither of us have seen on any other keyer. This enables fine adjustment of the iambic delay time - the time the finger or thumb needs to remain on its paddle to send a following opposite element. This may help those who have "heavy" or "light" finger actions. You can't ask for more control than this!

Note, incidentally, that Steve connects *both* dit and dah inputs to the same pin. This works because the "paddle" input (pin 7) goes the keyer chip's ADC (analogue to digital converter) input. R1 and R5 have different values. These, with R2, form two voltage dividers giving different chip input voltages when either or both paddle inputs are grounded. The voltage sensed tells the chip which element is required. Neat, and saves a pin.

Digression: Why is including a standard keyer useful? Our fingers get used to the "standard key sequences" encountered in conversational typing. But callsigns consist of random letters and numbers not usually sequentially encountered, and unless you're a slick touch-typist, a callsign will slow you up. Hence, I always use a keyer in parallel with any keyboard or computer sender so I can send the initial callsign exchange using this. I then put the other op's callsign into a buffer during his first over. Since I have "de zl1an" in another buffer, pressing two keys thereafter sends the callsign exchange automatically. Also, sometimes I just *like* using the paddle.

The keyer works just as it should, performing (of course) identically to my K9, K10, Accukeyer and CMOS Superkeyer units. Having it available, with speed, weighting etc slaved to the keyboard is a real plus.

More Features

We haven't even finished yet. There are two "Morse practice" modes. The first is "receive only". You select one of 4 different levels of difficulty, which include progressively more characters.

Randomly selected characters from this set are sent repeatedly in groups of 5, until you press "escape". The second mode is interactive. The keyboard sends a character from the selected set, then waits for you to press the corresponding key. If you're correct, it sends the same character again and adds another, until it gets to 5, when it starts again. If you echo the character incorrectly, it sends you an "error" symbol (8 dots) and starts a new sequence.

Older transceivers sometimes clip the first element when switching from receive to transmit. You can set "first element extension" to lengthen the first element by a designated number of milliseconds. There's a "PTT" output for transceivers with no automatic VOX. A diagnostic routine is provided which sends the current paddle pin voltage in Morse - useful for debugging paddle problems. All major settings (speed, weighting, sidetone, iambic mode etc) can be saved to EEPROM, and will be reloaded each time it's powered up.

The HSCW Mode

You can also send this intriguing "High Speed CW" mode, (also implemented on the K10 keyer). I've no experience of this, but it seems to be increasing in popularity in Europe and North America. Check out this very interesting website: http://www.nitehawk.com/rasmit/ws1_15.html

HSCW utilises meteor scatter VHF propagation, and works even with ionisation trails which are "under-dense", lasting much less than a second. Morse speeds of 200 - 1200 wpm are used, sending pre-prepared messages in short bursts. Listening stations record and play back the bursts at human-readable speeds. Typically MCW is used at 2000 Hz, sent in SSB mode. Here's a 1997 comment from the HSCW website:

"Our daughter Val, licensed about 18 years ago, came for a visit. She didn't like code, had only half a dozen CW QSO's as a Novice. Her real interest was emergency/public service work. But seeing HSCW at work here fascinated her. She learned to use MSDSP (a software package) in 15 minutes and also discovered that she still remembered some of the code. In three schedules, she made three HSCW QSOs (at 1000 wpm) because she could slow the code down. Since the signals were often down in the noise, she could also play back a ping a second time to be sure what she had copied. (On her third schedule, she used 1400 wpm making her not only the fastest woman in the world on CW, but now holding the absolute world record for HSCW speeds, so far as is known)."

I still haven't covered everything, but here's the bottom line. Steve has implemented *every* feature I want a Morse keyboard to have. In fact, I know of no other unit with so many features! Highly recommended.

At $27 (US) per kit, postage included, this is value for money. Steve can now accept credit card orders. If you build it and don't like it, send it back. Steve guarantees to refund your money in full. (But you won't send it back!).

(Adapted and edited for MM from Gary Bold's *The Morseman* column in *Break-In*, journal of NZART, October/November, 2000.) ***MM***

Morse in the Australian Antarctic Part 4 - Improved Equipment

by Allan Moore, VK1AL

CONTINUING EXTRACTS from Allan Moore's story of 50 years of Antarctic radio communications by ANARE (the Australian National Antarctic Research Expeditions) 1947-97. New radios arrive to begin to replace the older WW2 equipment. Radio teletype and SSB begin to appear, but Morse is to remain the principal mode of communication for years to come.

Closure of Heard Island

The year 1954 and early 1955 saw the last year-long expedition at Heard Island. The station closed on 8 March 1955, with most of the main radio equipment temporarily returned to Head Office in Melbourne awaiting an opportunity to establish a second continental station.

For emergency purposes, however, one AT5/AR8 transmitter/receiver was left behind, ready for use if ever needed. The closure of Heard Island's permanent station was a particularly sad event after eight years of extremely productive endeavour. Others visited the island later to further scientific research and extend earlier exploratory endeavours.

Macquarie Island

From the opening of Macquarie Island until the early 1950's, progress in radio operations followed an almost identical path to that of Heard Island. The familiar AT20s and AR7s (with AT5/AR8 units as emergency backup) were still providing reliable communications with mainland Australia and other stations. Macquarie also received an Eddystone 680 communications receiver to complement the existing equipment. By now the AT20 transmitters had been fitted with modulator units to enable them to work on voice (AM).

Additionally, the emergency equipment had been properly installed in a separate hut beneath the main aerial system. With a separate generating unit, this was a precautionary measure against the possibility of fire in the main radio hut.

In 1951, two of the team, Jim Wyatt and Bill Storer, were radio amateurs, and Bill made over 1000

amateur CW contacts during the year. During 1952-53, Macquarie Island radio was manned by Radio Supervisor Rob Gurr and Radio Operators Eric Macklin and Roy Arnel. It is interesting to note that Rob's interest in Antarctic service was whetted through his amateur radio contacts with Bill Storer the year earlier, and all radio staff took out amateur licences prior to sailing for Macquarie Island. One of the island's antennas was a stacked collinear phased array (Lazy H) on 14415 kHz directed on Melbourne Technical College, and this antenna was also useful for amateur radio work.

Rob Gurr's group also experienced the usual ionosonde interference, but had a worthy sympathiser in radio physicist Gersh Major who had served with the pioneer Macquarie group in 1948 as radio operator. Following his suggestion, they all pitched in and helped him move the offending 'box' to the emergency radio hut, some 50 metres from the main installation, thus reducing considerably the unwanted and irritating interference.

!955 saw a name change in the designation of Radio Operator to that of Radio Officer. The term Radio Officer prevailed until the end of 1981, when the designation was changed again, to that of Communications Officer. The future still held change.

By 1956, at Macquarie Island, the Eddystone 680 receivers had relegated the status of the Kingsley AR7 models to secondary use generally. The two AT5/AR8 emergency transmitters/receivers were still useful. One was located in the auroral hut and the second at Hurd Point. Both were used on voice as an 'intercom' system to assist in auroral research studies.

Russian Visit

Much excitement for the 1956 group was generated by the arrival of the Russian Research Ship *Ob*, call sign USDV, on 3 April following the establishment of their continental station at Mirny. The arrival of *Ob* at other bases in subsequent years was always one of the highlights of the station's year.

As was usual with visits from foreign vessels, the radio team was in contact by CW prior to arrival and following departure of the ship. During the visit the team was similarly kept busy by remaining in constant contact with the ship, and providing three-hourly synoptic weather reports for her officers' use, as well as other information.

Diplomatic relations between the Russian and Australian governments had been soured by the Petrov Affair in 1954 and the Russians had departed their embassy in Canberra. Approval for *Ob* to visit Macquarie Island was quickly facilitated by ANARE assistance and the Australians and Russians enjoyed the visit immensely. (The two countries re-established diplomatic relations in 1959).

Radio contact with Mirny was established on a regular basis in 1956 following the opening of the Russian radio station UFE. Scientific and social traffic was exchanged and long seismic messages originating from USARP, Washington, D.C., were received from Mirny and passed to the ANARE expedition's geophysicist. Mawson in return sent meteorological and ionospheric data.

"New Wave" of Ex-Service Operators

In 1959, Clive Cook was Radio

Supervisor at Macquarie Island with Dave Keyser and Keith (Blue) Macdonald as Radio Officers. Clive was an ultra-enthusiastic amateur radio operator, very interested in aerial theory and construction, sometimes with unexpected results. Dave and Keith were earlier paid off from the Royal Australian Navy as radio telegraphists and were the first of a "new wave" of post-war ex-servicemen signing up for Antarctic service; and the following years saw a rapid rise in the numbers of similar recruits.

An auroral observation site was occupied at Hurd Point, some 23 miles from the station. For safety reasons, visits by the auroral physicists to the site required no less than two men travelling together. Dave was a happy volunteer and, including walking, spent about three months at Hurd Point. Each evening he made radio contact with the station at Buckles Bay. Power for lighting and the radio was provided by a small diesel generator.

The auroral experiment was made in conjunction with the University of Alaska, but radio contact between Hurd Point and Alaska never eventuated. However, several contacts were made with Alaska from the main radio station (VJM) by radio-telephone, quite a long signal path for the old AT20M.

Mawson 1955

The relief party for Mawson's second year comprised Radio Supervisor Frits A. Van Hulssen and Radio Officers Jack Ward (Macquarie 1950) and Eric Macklin (ex R.A.N./P.M.G. - Macquarie 1952). Heard Island closed on 8 March, and a very important scientific outpost

Photo: courtesy of A. Brown

Mawson 1958. Alex Brown on radio watch. On his right is a GNT automatic Morse transmitter.

and radio station was lost for the moment.

Jack Ward recalls that the AT20M transmitters were very reliable and performed without trouble. The group did not use the 'old' Wilkins receiver during the year, but did use a borrowed Eddystone receiver (possibly a 680) owned by the Medical Officer, and keen amateur, Bob Allison while Frits Van Hulssen overhauled the AR7 receivers.

The two, ostensibly new, gleaming AR7s provided by the RAAF kept Frits busy as many of the components, particularly resistors, had changed in value through storage. After much attention, however, they performed very well.

On one occasion, Frits made a South African amateur contact at the request of the doctor to contact a veterinarian for advice on treating a husky with a protruding spleen, probably caused in a dogfight.

Mirny Opened 1956

At the end of 1955 the pioneer Russian expedition arrived at their new continental site, named Mirny, on board the diesel-electric vessels *Ob* and *Lena* with several support vessels as well. On 13 February 1956 their country's flag was officially raised to celebrate the station's establishment.

From the start, regular synoptic weather summaries transmitted in Morse around the clock were intercepted at Mirny from such stations as Canberra, Wellington, Pretoria, and Port Stanley in the Falkland Islands. The Russians also established regular direct communications with foreign bases in the Antarctic, their first continental contact being with Mawson on 28 February 1956. This inaugural contact eventually extended into regular radio schedules several times each day for decades into the future.

Morse was the principal mode of communication for years to come. It is fair to say that the Russian base and aircraft operators' ability was second to none in transmission and reception of the code. They used international Morse when working Australian and other foreign stations, and the Russian code when working their own stations, aircraft and ships. It seems that Mirny radio was blessed from day one with transmitters of five kilowatts of power or more.

International Geophysical Year (IGY) - Mawson's Role

Recollections by Alex Brown and Doug Twigg include the following: *With the influx of stations being established in and around Antarctica in the years prior to IGY, and our need to exchange meteorological and scientific data with other stations in the region, it became obvious that a co-operative organisation was needed to co-ordinate the increased radio communication activities.*

The IGY Antarctic Conference, held in Paris in 1955, created a Working Group on Radio Transmissions to consider probable patterns of traffic between stations and to co-ordinate the establishment of radio networks for the efficient exchange of radio traffic.

The "mother-daughter" system was created whereby a control or "mother" station co-ordinated the collection and distribution of traffic within each network of "daughter" stations, and

between other networks. When the IGY began in 1957 over sixty radio stations were operating in the Antarctic.

This occurred at the time of the establishment of Davis, and prior to Australian control of Wilkes. Mawson was designated a "mother" station for East Antarctica, with Davis VLZ, Syowa JOV (Japan), Roi Baudouin ORV (Belgium), and Norway Base LH2F as "daughter " stations.

Mawson worked several schedules daily with each station for the collection, collation and passage of all weather traffic in the region. Once gathered and assembled, the information was formed into a collective of data which was forwarded to other collecting/processing centres at McMurdo NGD and Mirny UFE. Some portions of each collective were also passed to Capetown ZTF, Marion Island ZRS, Kerguelen FQF2 and Amsterdam Island FQF3.

The primary mode of communication was CW until the early 1960's when RTTY, radio teletype, was introduced, particularly on the main inter-network links. An additional radio officer was provided to assist with increased meteorological and other scientific traffic for the IGY.

This arrangement continued to operate in the years beyond the IGY, with some minor modifications, into the era of Antarctic Treaty Telecommunications networks, until the late 1980's when satellite facilities provided a new approach in the exchange of Antarctic data and traffic.

Modern Receivers Arrive 1957-58

Several important technical improvements occurred in early 1957, beginning with the arrival of the first batch of the highly regarded Collins 51J-4 communications receivers. These excellent receivers gradually replaced the old faithful Kingsley AR7 and Eddystone 680 sets, and were easy and fast to tune.

They had a highly desirable one kHz dial read-out and could be calibrated to extreme accuracy. They looked impressive and could resolve CW, RTTY,

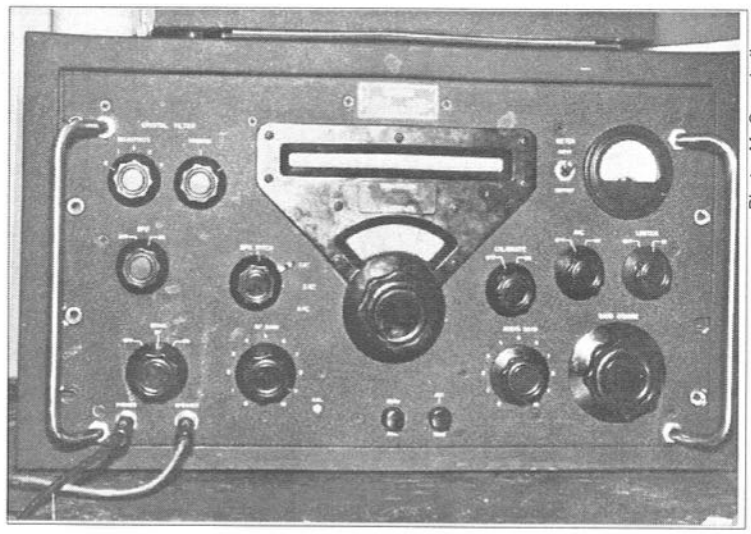


Photo: M. Campbell

Collins 51J-4 communications receiver - every operator's favourite.

AM and SSB signals. These receivers, which remained in service until the mid-1980's, were eventually located to the stations as follows: Mawson 4, Wilkes/ Casey 4, Macquarie Island and Davis 2 each. (Wilkes inherited their Collins receivers from the U.S. at the time of the hand-over to Australia in 1959.)

Automatic Morse Equipment

In 1957 Mawson (and in 1959/60 Macquarie Island), was provided with a GNT automatic Morse tape transmitter and a Creed Morse tape perforator, often simply referred to as 'the Wheatstone' after Sir Charles Wheatstone who originally perfected the system in the late 1800's.

The tapes were prepared by an operator on the Creed perforator and then fed through the Wheatstone transmitter coupled to a radio transmitter. This meant that traffic could be prepared in advance of a schedule, and later transmitted while the operator undertook other chores. It was particularly useful during ionospheric blackouts when tapes could be prepared and saved for transmission when radio contact was re-established. The transmitters could easily be adjusted to operate from a slow ten words a minute up to well over 200 words per minute - far beyond the capacity of any human to comprehend and transcribe.

In 1958 the wrong size paper tape was supplied to Mawson - wider teletype tape instead of the narrower Morse tape. Our innovative group decided to build a tape-narrowing cutting device to overcome this difficulty. After a few experiments, a tape cutter was built which comprised a paper guide and an old-fashioned razor blade, through which the tape to be cut was pulled manually.

The narrowed tape was collected in a waste paper basket from which it was fed into the tape perforator when punching tape for Morse transmissions. The perforated tape was then wound onto 16mm movie spools and later fed into the GNT tape transmitter head. Although tedious, the system worked quite well throughout the whole year. It was the job of the off-going duty operator to pull sufficient cut tape into the basket ready for use by the next shift.

During poor conditions, operators at either, and sometimes both ends of the circuit would need to interrupt or "break" each other, necessitating a tape being pulled back and restarted from the last correctly received group of figures. This was a routine that took time to master, and the system prevailed at Mawson until early/mid 1963 when radio teletype transmissions were fully established each way on the South African circuits.

New Higher Powered Transmitter

In 1958, for the first time, war surplus transmitting equipment was bypassed. A more powerful commercially made transmitter was obtained. The one kilowatt Australian made Philips broadcast transmitter, Model 1619C, modified for CW operation only, proved to be an extremely reliable unit although it could only be set up on one channel at a time.

When frequency changes were needed they could not be accomplished quickly. The 1619C was set up on 15845 kHz and beamed on Perth with good

results. Frequency changes in later years were normally effected by radio supervisors or technicians, as necessary.

Typical of transmitters of this type, the electro-mechanical workings were housed inside an attractive cabinet, and little else showed except a multitude of tuning dials, meters and lights. The unit was housed in the second or rear room of the already cramped original radio hut, while all the operating was undertaken inside the first room, which housed operating tables, equipment panels, receivers, typewriters, keys and other paraphernalia. Two AT20 transmitters were also squeezed into this small space.

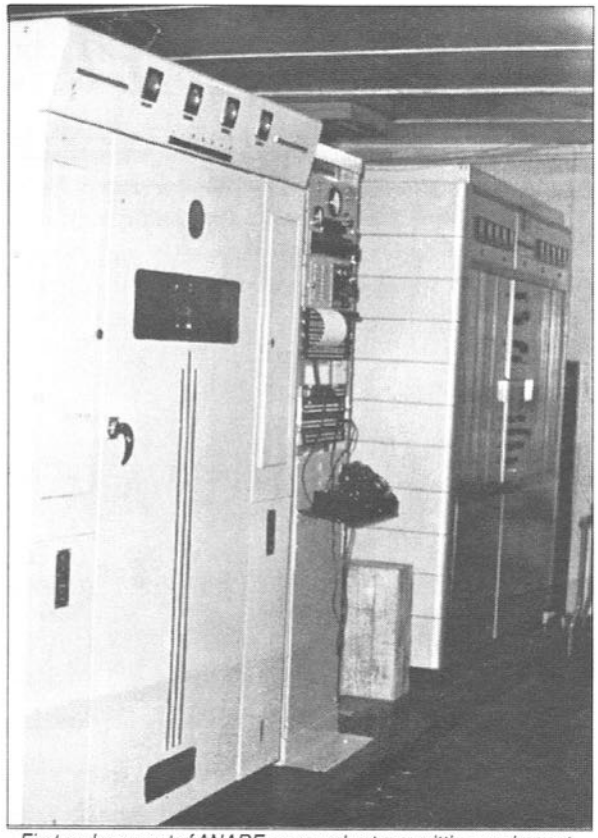


Photo: Max Corry

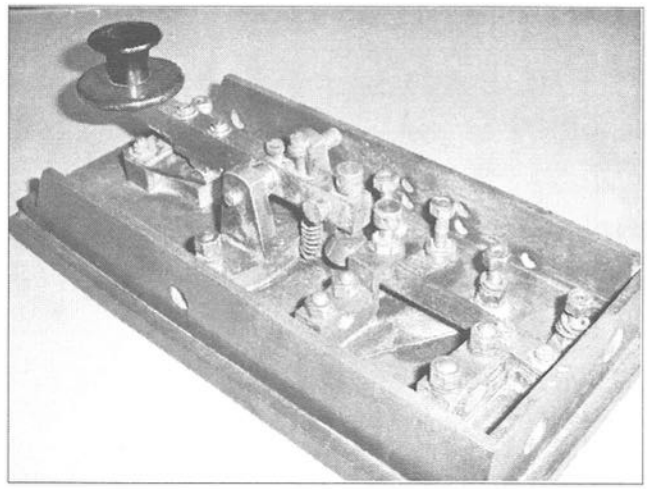
First replacement of ANARE war surplus transmitting equipment. (On left) Philips 1619C one kilowatt transmitter at Mawson. On right, a CTH7 5 kw transmitter of later vintage.

(Extracted/summarised from *Fifty Years of Australian Radio Communications in the Antarctic, 1947-1997*, a series of articles written by Allan Moore to celebrate the Jubilee Year of ANARE (the Australian National Antarctic Research Expeditions) for *Aurora*, Club Journal of ANARE.). ***To be continued... MM***

Info Please!

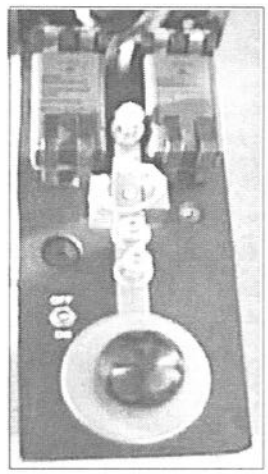
Readers are invited to contribute any additional informationand stories, no matter how minor, to the Editor, Morsum Magnificat. There have been thousands of designs of keys & telegraphy instuments. Information will be lost unless it is compiled in one place and shared with other readers.

Photo/Collection: Ron Tucker, G3KTC



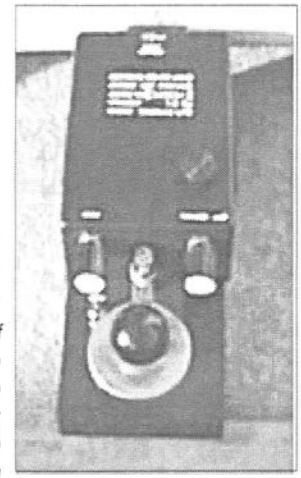
This key is the 'Key Type B1 Ref No 10A/7839' As can be seen it is longer that the RAF Type D but of similar type with extra contacts at the rear. In his training days in 1949 at RAF Compton Bassett Ron Tucker can remember seeing these keys in the Morse Transcription Unit and used to test Morse sending skill by putting it on to an inker. It was then played back to the trainees. When he transferred to the Merchant Navy this key travelled round the world and has transmitted many a good signal to Portishead Radio.

Collection: Brian Watson, GØRDH

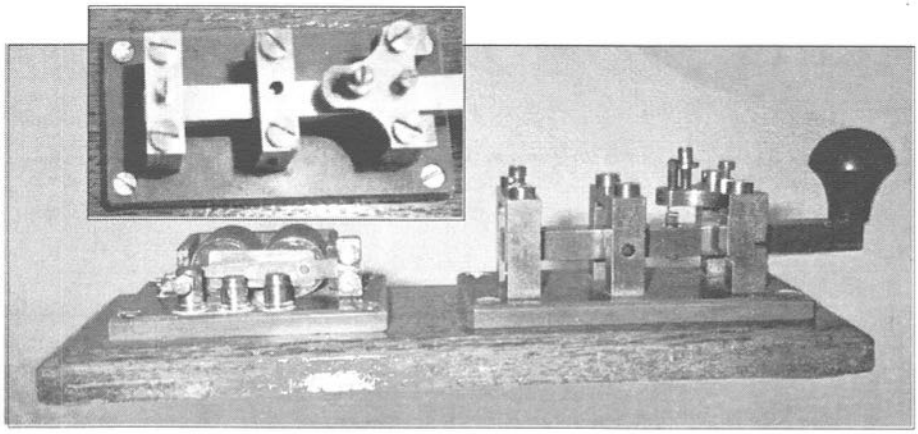


DESC: Trainer Telegraphic.
NSN 6940992192848
MGMT CODE Y1
PART No. D17271
Contract No. VTS3A2/57

SUPPLIED BY IRWIN DESMAN LTD CROYDON



A very interesting key, possibly one of the last British military keys to be produced. The key is very well made and according to a little pull back blank on the box label cost £132.20p The case is metal and painted black..... the wiring inside is all ribbon cable like you would find in a computer. Its described as a "Morse Telegraphic Trainer" and is marked with information shown in the inset. Brian Watson would be interested to know which services used the trainer, when it went into service etc.



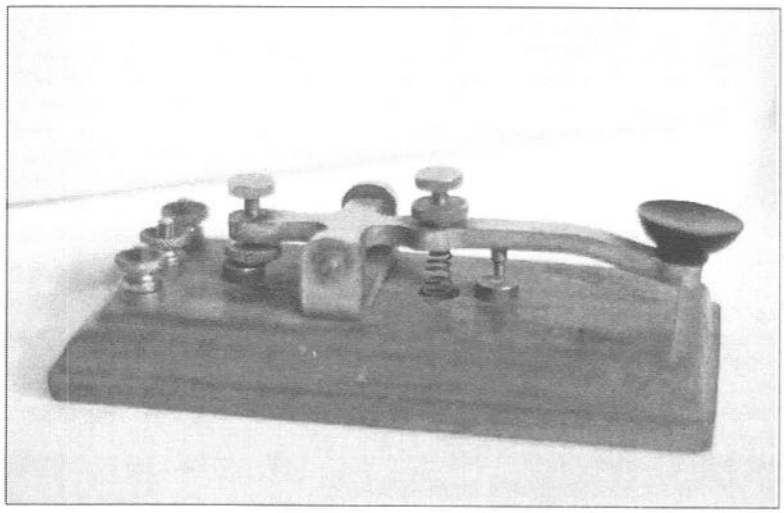
Photo/Collection: Jack Barker

Mystery of Key W.T. 8AMP No. 1 *- From Tony Smith's excellent article in MM37 pages 9-18 makes Jack Barker wonders whether he has found the illusive W.T. No. 1, or perhaps a prototype or maker's sample of this key. This KOB was found on a junk stall and when cleaned up, turned out to be an excellent quality brass key & buzzer mounted on an oak base.*

The whole key is considerably bigger than the standard W.T. 8 AMP key, the 4½ in (11.5 cm) lever with a 1 in (2.5cm) dark brown knob pivoting on a tapered steel pin through the centre bridge. The bridges measure about 1⅕ in (3 cm) high by 1⅕ in wide and all the terminals are on top.

The front bridge is in two halves, the top half containing the tensioner and also a spacing contact between the two screws holding the top half to the oddly-shaped bottom half.

The light brown paxolin (?) key base measures 2 x 4 in (5 x 10 cm) and the buzzer base is 3 x 2 in (7.5 x 5 cm). Both are screwed to an oak base measuring 9 x 3 in (22.5x7.5 cm) with no provision for wires or battery. The whole assembly is so beautifully made that it may be prototype to demonstrate the design. Has anyone any info?



Photo/Collection: Henri Heraud, F6AOU

Does anyone recognise this unknown key - info please

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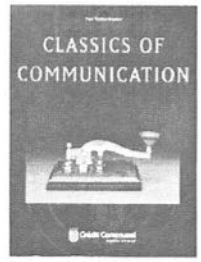

Classics of Communication (English Edition) *by Fons Vanden Berghen*

A book of exceptional quality produced originally to accompany a Brussels Exhibition sponsored by a Brussels bank. Illustrated with 240 high quality photographs, 140 in colour, including many rare telegraph instruments. The text includes the history and technology of electricity through to wireless and early television, but a large section of the book is devoted to telegraphy. Without sponsorship, a book of this size and quality could not have been economically possible for such a limited readership - 107 pages, 24.5cms x 29.5cms (9.7in x 11.6in). **£16.95 UK - £18.25 EU - £21.00 World (US $36)***

Telegraph Collectors Reference CD-2000 *by Tom Perera*
(Also works on the Apple Mac)
An absolute mine of information for collectors compiled from variety of sources including important web pages (See MM70, p11 for details). Users need a PC running Explorer or Netscape web browsers to access the CD. The great advantage of using the CD is that the browser software is used off-line, which means that no phone connection is needed. As a result access is much faster and the CD includes the whole of 'Perera's Telegraph Collectors Guide' and his cyber-museum but with high resolution pictures, many in colour. A draft of the cumulative index of MM is included. **£9.00 UK - £9.20 EU - £9.70 World**

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CONTINUED ON NEXT PAGE

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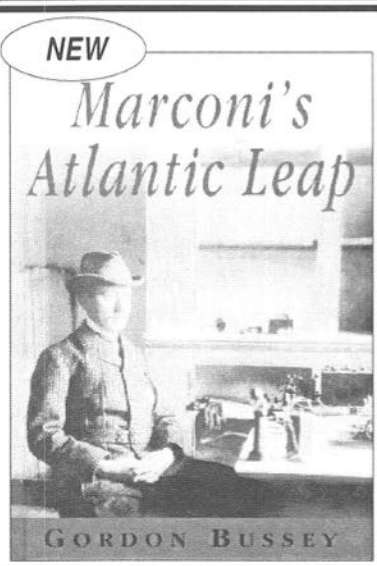

Marconi's Atlantic Leap by Gordon Bussey

Published by Marconi Communications, this is a hardback high quality book of 96 pages and describes the endeavours of the 27 year old Marconi to prove that trans-Atlantic wireless transmission was possible against the views of many distinguished scientists.

The book has been published to mark the centennial year of the landmark achievement between Poldhu, Cornwall and Signal Hill, Newfoundland on 12th December 1901. Illustrated with 71 archive photographs, documents and maps from both sides of the Atlantic, the book is published at £6.99 and is available from the MM Bookshelf at a special price. A copy of the 1999 Marconi Centenaries booklet will be sent free with orders.

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Clubs & Societies

Clubs and societies with interests in Morse and telegraphy are welcome to introduce themselves on these pages

HTC - Helvetia Telegraphy Club - HB9HC

by Robert Zanini, HB9DEO

The club was founded in 1980 under the name 'Amateur-Radio-Telegrafie High Speed Club' (HSC-Schweiz). As time went on it was found necessary to change the name but the aims remained the same.

In the early nineties the name was changed to 'Helvetia Telegraphy Club' (HTC) and more and more Swiss Radio Amateurs found it helpful to become a member of the club. In the year 2000 the 100th member joined which was a great success for the HTC. On 15th September, 2000 the Award '20 Years of Helvetia Telegraphy Club' was announced.

Purpose

The main purpose of HTC is to help preserve the rights of the Radio Amateurs in their use of the short-wave bands; to support them in learning and improving their Morse skills; and help promote the 'Ham Spirit'.

This is done by operating the Club station and regularly transmitting training sessions in Morse telegraphy, exchanging experiences, helping Radio Amateurs if problems arise with 'home-brew' equipment and engendering friendship within the membership. Also, by participating in membership of USKA (Union of Swiss Short-wave Radio Amateurs), and membership of the European CW Association, etc.

Aims

- To further the use of CW on the amateur bands
- To encourage Radio Amateurs and newcomers to the CW mode
- To help preserve and promote the 'Ham Spirit'

Activities

The club has many activities and members of HTC are not forced to participate in them all. A love of Morse is all that is required!

HB9HC is 'on air':

1. Every Monday: 1900h HB9-time, 3.576 +/-, speed 04 – 28 wpm, with a Morse code training transmission

followed by HTC news (in German) if there is any.

2. 1st and 3rd Thursday: 2130 h HB9-time, 3.557 +/-, QSOs for newcomers and QRP ops. who would like to check their signal.
3. Contests:
   - USKA H26 - Helvetia contest (last weekend in April)
   - USKA NFD - National Field Day (1st weekend in June)
   - Award '20 Years of Helvetia Telegraphy Club' (HTC)

Other activities are decided at the annual meeting. HTC members can be found near frequencies 3.576, 7.027, 14.057, 21.057, 28.057 MHz.

All information can be found on the HTC web site at www.htc.ch or contact Robert Zanini, HB9DEO Gruetstrasse 40, CH-8134 Adliswil, Switzerland. E-mail: hb9deo@uska.ch

Award "20 Years of Helvetia Telegraphy Club"

The Helvetia Telegraphy Club is sponsoring an Award for their 20th Anniversary - open to all YLs, OMs and SWL's fulfilling the following conditions:

- The award can be achieved between 11 March 2000 and 14 September 2003. Only QSO's during this period will count.
- Complete Telegraphy QSO's (A1A) with name and QTH exchanged ONLY count for this award. HTC members exchange your HTC-number in addition. Exception: HB9HC and HTC members in contest.
- SWL's should log both stations heard and the reports exchanged.
- Each QSO on all bands (160m to 10 m), WARC - bands included, will count for this Award.
- Each station may be worked once on each band.
- Minimum one QSO with HB9HC is required.
- 2000 points are required for the Award and are counted as follows:

For HTC - members

200/20 pts for each QSO with HB9HC (1st QSO 200 pts/others 20 pts)
20 points for each QSO with an HTC member
2 points for each QSO with all other OM's

For all other YL's, OM's and SWL's

500/50 pts for each QSO with HB9HC (1st 500 pts/others 50 pts)
50 points for each QSO with an HTC member
5 points for each QSO with all other OM's

- Untrue indications and falsifications will cause the disqualification of the applicant. Any decision taken by the Award Manager is final.
- Applicants should send the log without QSL's, but approved and signed by two licensed Hams according to QSL cards received, to the address below. HTC - members indicate their membership number with the application.
- The award is free of charge for the first year (until 14 September 2001). Applications received after this date pay a fee of US-$ 10.— or EUR 10.—, Swiss Hams pay a fee of CHF 10.—.

Send applications with fee to the Award Manager as follows: Claude Haenggi, HB9CRX, Rosenweg 5, CH-2556 Schwadernau, Switzerland.

Additional Information: HB9HC, is QRV: Every Monday at 1900 HB-Time on 3576 kHz / Every 1st and 3rd Thursday at 2030 HBT on 3557 kHz / In the HELVETIA Contest (H26), last weekend in April and in the Field Day Contest (NFD) first weekend in June.

A list of HTC members can be found at the HTC website, ***www.htc.ch***

Your Letters

Readers' letters on any Morse subject are always welcome, but may be edited when space is limited. When more than one subject is covered, letters may be divided into single subjects in order to bring comments on various matters together for easy reference. Please note that the views in readers letters are not necessarily those of MM

European Landline Bugs?

I have turned some of my attention to studying the keys of WWI. I have found a very interesting tit-bit from "Circuits of Victory" by Lavine, 1921. It describes the involvement of the U.S. Army Signal Corps in WWI.

When the Army Signal Corps first arrived in France in 1917, there were no telegraph lines for the American Expeditionary Forces (AEF) to use and so France supplied a few circuits for use. The man put in charge was Lt. Frank H. Fay. Lavine called him the most knowledgeable Signal Corps person in the matter of electrical science and an expert on telephones and telegraphs including duplex, printing telegraphy, composited, phantomed and simplex lines.

Shortly after Fay took over the lines, AEF traffic became heavy. He needed more thruput as we say today. "His first step was to change from 'open' to 'closed' circuit, permitting the use of American sending machines (Vibroplexes), and speeding up the service all along the line, by adapting it to American telegraph practice."

As I read this, it dawned on me that Lavine has just explained to us why we don't see any landline bugs in Europe. (our European cousins - correct me if I'm wrong.)

A European landline key has two sets of contacts, one set NC and one set NO. So you just can't throw a bug in parallel with a European landline key. I guess I had never thought about this before. Now I'm guessing that all the European made bugs such as the British Eddystone and French Vibro-Morse were used exclusively for radio telegraph work.

Does any one know of any European landline bugs? We see Australian landline bugs. Is that because they used closed circuit lines as we did in the U.S.?

Neal McEwen, K5RW
nmcewen@metronet.com
"The Telegraph Office"
http://www.metronet.com/~nmcewen/tel_off.html

Russian key MM71 P.38

There is a version of this key that is mounted on steel box containing spark suppression circuitry. "MPTn CCCP" over a star, is moulded into the top cover. This key is a "type KM-F" = Kljutsh Manipuljatsionnyj s filtrom = straight key with filter.

Some have a sign looking like

"3TA". That's the trade mark from the Telegraph Instruments company (Zavod Telegrafnoj Apparatury) in Cherkassy/ Ukraine.

Greg Ulsamer, DL1BFE
Emden, Germany

MM73 Info Please Junker Key

The key owned by GDØLQE at the bottom of page 39 of MM73 appears to be a standard model made by the well known German firm of JUNKER. They were producing Morse keys to this design until recently – perhaps they still are?

They made keys for a long time, maybe over 100 years, and were a major supplier to German forces. The design seems to have changed little.

Gerald Stancey, G3MCK
Peterborough, UK

I have a similar Junker key which I also purchased at a rally. It has identical lettering but with a standard 6mm jack plug. The letters 'D.B.G.M.' denote post-war manufacture. A rarer collector's version is stamped with the Wermacht mark on a black base with the letters 'D.R.P.' which I believe is of WWII origin.

There is no connection between 'JUNKER' – key manufacturers and 'JUNKERS' – aircraft manufacturers.

J. P. Traynor, G3HEL
Plymouth, UK

Referring to MM73 page 39, photo of Junker Key. Full information is available in MM35 page 27, MM37 page 47 and MM38 page 43.

Christopher B. Jones, G3RCU
Christchurch, Dorset, UK

Eddystone S689 Bug Key

Having recently obtained an Eddystone Cat. no.S689 Bug key the case of which is finished in black crackle paint, I discover no serial number is to be found, and missing from its base are the three rubber feet, I assume perished with time. Also the shorting switch is missing, for which I seek a replacement.

I am reliably informed that Eddystone also produced a batch of grey finished Bug keys. Does anyone have such a type or have you seen it advertised in the magazines of the time?

Whilst looking through a copy of an Eddystone index to drawings, now scarce, I note that in 1948 Eddystone had a drawing for an Oscillator for speed Key test and a drawing of a plain view of the Key.

My appeal is for any reader who might have any information on the two different coloured keys, a possible source of the shorting switch which I seek, and the drawings I refer to.

If anyone can help please phone 01926 423120 or e-mail andrewhumphriss@tinyworld.co.uk or write to 4 Girvan Grove, New Cubbington,Leamington Spa, CV327TH.

Andrew Humphriss

(According to an article by Colin Waters, G3TSS, in MM13 (p.30), a number of these keys did not have serial numbers. It is possible that these form part of a production run by Birmingham's Chas H. Young amateur radio company to whom Stratton & Co. Ltd sold their remaining keys and unassembled

components when they discontinued production of the Eddystone Bug. Colin's article is illustrated by an Eddystone leaflet for this key, which includes a drawing of its layout. Ed.)

Unknown Sounder MM73, P.38

I have a sounder, which is almost completely a duplicate of the one shown in the photo. Mine has the pivot screws within the width of the pivot standard and no lugs, but otherwise it appears identical. It has two metal labels fixed to it. One is on top of the wooden base between the terminals and the brass base of the sounder proper bearing the words A.T.M. Co. Ltd. Liverpool. This probably explains the use of BA threads.

The other label is attached to the vertical edge of the wooden base in front of the terminals showing the numerals 900. This refers to the resistance of the coils, which total approximately 900 ohms (an unusually high-impedance for a sounder?).

Similar to the one shown in the photograph, mine has three conical brass feet under the wooden base, and the actual bottom of the sounder is held off the wooden surface by spacers. Interestingly the moving armature is made of aluminium.

Brian Grist, G3GJX
Surrey, UK
brian.grist@lineone.net

End of V5W/ZSV Walvis Bay

The Closure of V5W/ZSV, Walvis Bay Radio is very evocative to me. I am deeply sorry to hear of this, another, closure. I remember ZSV on my voyages with Union-Castle in the early 1950s. I don't think that the company used the station to any great extent; certainly I did not, though we viewed the station with affection.

It may be that we sent OBS (metrological) messages there sometimes. In passing, I would express very strong admiration for the Republic of South Africa's W/T service. The civilian operators located at ZSJ, and on MF at ZSC, ZSD, ZSL along the Cape Coast up to Durban, were professionally very consistent, ultra-reliable types with whom it was a positive pleasure to work.

An interesting point about the South Africa service was that British ships with traffic for South Africa or via the Commonwealth Area Scheme, as it was, accessed the Royal Naval sections of Cape Town Radio ZSJ. However, the Union-Castle Line, heavy users of the system, were given permission to work with civilian operators who otherwise were looking after the non-British ships.

Tom St. John-Coleman
Essex, UK
winmarleigh@hotmail.com

AutoMorse Letter MM73

Ron McMullen is correct, bug keys were connected across the gaps of straight keys, see MM18, P40. The special plug was often shown in advertisements for Vibroplex keys in the 1950s, however the bug does not need a circuit closer as the one on the straight key can still perform this function.

Gerald Stancey, G3MCK
Peterborough, UK

Letters - continued

Cecil Goyder

In MM73 Gary Bold outlined some of the achievements of Cecil Goyder, in Part 1 of 'Magic in 1924'. This reminded me of a jingle which circulated among radio hams in the early 1930s. Bearing in mind that the beautiful Irish town of Drogheda is pronounced "Droy-der":

A young ham who lived out in Drogheda
Said "though I've often emplogheda
Proper neuted PA
I really must say
The best circuit of all is a Gogheda."

Bill Lord, GM5NU
Edinburgh

THE MORSE ENTHUSIASTS GROUP SCOTLAND

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

Details from Secretary: G.M. Allan GM4HYF, 22 Tynwald Avenue, Rutherglen, Glasgow G73 4RN, Scotland.

ReadersAds

Readers advertisements are free to MM subscribers. The number of insertions should be specified, otherwise it will be assumed that it is required in the next issue only. Non-subscribers are welcome to advertise in the Classified Ads section. Please contact MM for styles available and rates.

New - Ads can include one photo free of charge

FOR SALE

TITANTIC-TYPE KEY - replica of the Marconi manipulator key with side lever isolation switch. See Showcase for photo. For more information contact Greg Ulsamer, DL1BFE, Logumer Str. 66, D-26723 Emden, Germany.
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BOOK: "Radiotelegraph and Radiotelephone Codes, Prowords and Abbreviations." 2nd Edition. AUD$16 posted within Australia. 90 Pages. Q,X,Z Codes, 97 Phonetic, 20 Morse Codes. Phillips, Myer, 10,11,12,13 Codes. Much other info. Probably world's best listings. Internet: http://www.nor.com.au/community/sarc/phonetic.htm. Also via MM. VK2JWA, John W.Alcorn. QTHR. +61 02-66215217. jalcorn@nor.com.au VISA, MASTERCARD, BANKCARD (Aus, NZ) accepted.

ReadersAds

THE MM Q & Z CODEBOOK, a comprehensive 82-page list of the Q-codes and Z-codes, including a one-page list of the original Q-codes of 1912. Available from Dick Kraayveld PA3ALM, Merellaan 209, 3145 EH Maassluis, Holland. Price £5 UK, or US$10.00 outside UK, including postage in both cases. Payment accepted in cash only.

EXCHANGE & WANTED

WANTED: BACK ISSUES OF MM, numbers 29, 30, 32, 33 and 37 to complete the set. Please contact Mike Prince, 25 Chiltern Road, Burnham, Slough, Bucks SL1 7NF, UK. Telephone daytime: +44 (0)1628 604455, Ext. 215.

I AM A KEY COLLECTOR with over 300 different keys from 20 countries and have 50 keys available for swapping. Write to Henri Heraud, F6AUO, 9 Avenue de Bellevue, 91130 RIS ORANGIS, FRANCE.

WANTED: TELEGRAPHY ITEMS (esp. land-line). I am looking for somewhat special telegraphy apparatus: Single and Double Needle, Wheatstone etc. Buy or swap. I can swap for early electricity (e.g. tubes from Crookes, Röntgen and Geissler; Ruhmkorff; Wimshurst;..), very old radiovalves, some telephony and of course telegraphy. Who else collects telegraphy ?? All letters answered. Fons Vanden Berghen; Lenniksesteenweg 462/22; B-1500 Halle, Belgium.
Tel. +32.2.356 05 56 (home: after 8 pm my local time) or office: +32.16.38 27 21 or e-mail: fovabe@telindus.be

WANTED TO BUY: Telegraphic Code Books, as used to reduce the costs of telegrams by replacing common phrases with codewords. Would be interested in both originals of photocopies. I am a hobbyist in Cryptography and am facinated in different ways data is and has been represented for different purposes (e.g. speed, economy, confidentiality etc.) Also interested in related items. Letters to Mark Darling, 132 Knowlands, Highworth, SN6 7NE, United Kingdom or e-mail: darling@patrol.i-way.co.uk

WANTED: Early paddles such as the Nikey, Autronic, Ham-key HK1 & HK2. Ray Bullock, 40 Little Harlescott Lane, Shrewsbury SY1 3PY, England. Tel: +44 (0) 1743 245896.

SOLUTION TO MM73 SEARCHWORD

(Page number in MM73 in brackets)

Across: 2 Sulphur (16), **6** KPH (2), **8** MNTU (34), **11** Wilkes (20), **12** STENDEC (44), **13** Henry (2), **14** Oakland (26), **17** Prince of Wales (13), **21** Morsecode (4), **22** Bolinas (2), **23** Gibson Girl (15), **24** SKN (2).

Down: 1 CQWW SSB (3), **3** Pecknelacker (18), **4** Junker (47), **5** Fog Signals (Back cover), **7** Handy (13), **8** Mawson (14), **9** Bedford (Inside b/c), **10** Regenerative (26), **15** Killen (12), **16** Sea Bees (20), **18** N'Changa (Inside b/c), **19** Wire (15), **20** Speed-X (27), **21** MEGS (6).

EUCW/FISTS QRS PARTY

To encourage newcomers to Morse operating, and as a contribution to the activities of the European CW Association, FISTS CW Club invites all licensed radio amateurs, especially members of EUCW clubs, to take part in the annual EUCW/FISTS QRS Party.

This event provides an opportunity for EUCW club members, and non-members, to meet and exchange greetings with each other at a leisurely pace. At the same time it is an opportunity to make contacts qualifying for the prestigious Worked EUCW award.

Although not a contest in the normal sense of the word, there is a contest element for those who thrive on challenge, with awards for those who score the most points, and a merit award for the "Most Readable Morse Heard" voted for by other contestants.

In this event, taking part is more important than winning, providing fun for all in a non-stressful introduction to a contest-like event for beginners, and an opportunity for more experienced operators to put something back into the hobby by helping and encouraging those less experienced in CW operating.

Feedback can only be obtained from contestants' reports so, whatever your level of experience, and even if you only have time to make a few contacts, please make an effort to send in a log.

Dates/Times: From 00.01 UTC on the fourth Sunday in April, for one week, to 23.59 UTC on the following Saturday. For 2001, the dates will be Sunday 22nd to Saturday 28th April.

Mode: CW only.

Frequencies: All bands, except WARC bands. Non-QRP stations are requested to avoid calling CQ on the popular QRP frequencies.

Keys/Speeds: Any type of key or keyer may be used, but no keyboard sending or pre-programmed messages from computers or keyers allowed. Maximum speed 14 words per minute (70 cpm). The speed of a QSO should be at the speed of the slower station

Call: CQ QRS/EUCW. Stations may be worked or logged once each day in each band used.

EUCW Clubs: Listen out for members of the following clubs, taking part in the EUCW/FISTS QRS Party: AGCW-DL (Germany); Benelux-QRPC; BTC (Belgium); CFT (Belgium); CT-CWC (Portugal); EA-QRPC (Spain); EHSC (Extremely High Speed Club); FISTS; FOC (First Class Operators); G-QRP; GTC (Greece); HACWG (Hungary); HCC (Spain); HSC (High Speed Club); HTC (Switzerland); INORC (Italy); I-QRPC (Italy); ITC (Italy); MCWG (Macedonia); OE-CWG (Austria); OHTC (Finland); OK-QRPC (Czech Republic); RTC (former GDR); SCAG (Scandinavia); SHSC (Super High Speed Club); SP-CWC (Poland); UCWC (Russia); UFT (France); U-QRQC (Ukraine); VHSC (Very High Speed Club); YL-CW-GP (Germany); 3A-CW-G (Monaco); 9ACWG (Croatia).

Classes:
A - Members of EUCW clubs using more than 10w input or 5w output power
B - Members of EUCW clubs using QRP (10w input or 5w output, or less)
C - Non-members of EUCW clubs using any power
D – Short wave listeners

Exchanges: Class A & B, RST/QTH/Name/Club/membership number
Class C, RST/QTH/Name/NM (i.e. not a member) Class D, Log information for both stations

Scoring: Class A/B/C - 1 point per QSO with own country, 3 points per QSO with other European countries.
Class D - 3 points for every complete logged QSO.

Multiplier, all classes: 1 multiplier point for each EUCW-club worked/logged per day and band.

Logs: To include date, UTC, band, call worked, info sent, info received, and score claimed for each QSO.

Summary: To include entrant's full name, call, address, EUCW club, Class entered, multiplier claimed, total points claimed, station details, including type of key/keyer used, power used, comments (if any) on the event, one vote for "Most Readable Morse Heard", and signature of entrant. E-mailed logs and summaries are acceptable, provided they follow the same format as detailed above.

Entries: Send log and summary to: FISTS/EUCW Contest Manager, Keith Farthing, M0CLO, 86, Coldnailhurst Avenue, Braintree, Essex, CM7 5PY, England. or e-mail to: keithm0clo@hotmail.com
All logs to be received not later than 31st May.

Awards:a) A certificate will be awarded to the three top scorers in each class. b) A certificate of merit will be awarded to the operator receiving most votes for the "Most Readable Morse Heard", provided the operator nominated has also submitted a log. If the recipient of the most votes has not submitted a log the certificate of merit will be awarded to the qualifying entrant with the next highest number of votes. In the event of a tie multiple certificates will be awarded, endorsed "Shared Award". No correspondence can be entered into. The Contest Manager's decision shall be final in making all awards.

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1943 Advertisement for the Instructograph