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Morsum Magnificat

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MORSUM MAGNIFICAT was first published in Holland, in 1983, by the late Rinus Hellemons, PAØBFN. Now published from London, it aims to provide international coverage of all aspects of Morse telegraphy, past present and future.

MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material which would otherwise be lost to posterity, providing an invaluable source of interest, reference and record relating to the traditions and practice of Morse.

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COVER: Eddystone bug key. Photo: Murray Willer, VE3FRX. Article by Colin Waters, G3TSS, page 30.

THE RAF'S HISTORIC

T1154/R1155

PART 1 - Restoration and present day use.

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This famous transmitter/receiver combination served the RAF well during and after WW2. Today, operators and collectors treasure and restore this increasingly scarce equipment and research its history. This composite feature is based on articles and other material provided by John McDonnell G3DOP, Phil Racher G6MQJ, and Larry Robinson GØHTR, with advice and help from Gus Taylor G8PG, who passed his commercial aircraft radio operator's examinations using this equipment.

****

What is it?

At the end of the sixties, PHIL RACHER, from Guildford in Surrey, bought an unusual looking radio receiver. He had no interest in radio or electronics but on a boring wet evening he would "crawl along the dial". Around 1980, he began to wonder, "What exactly is it?"

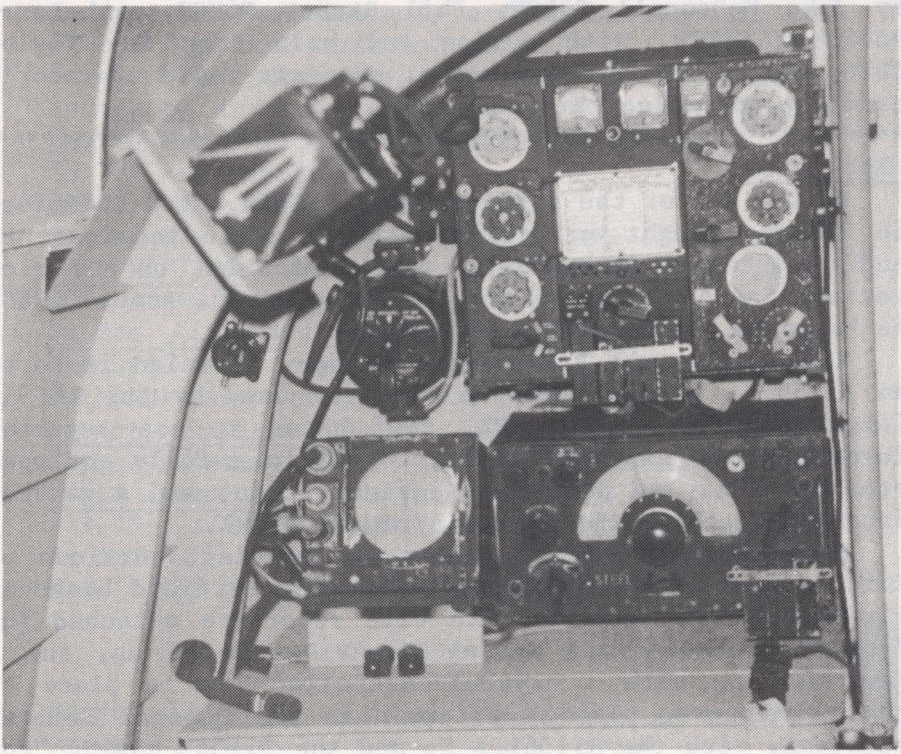
Research at the RAF museum, Hendon, revealed it to be an R1155, a general purpose receiver used by the RAF in large aircraft during WW2. Phil hates to see anything incomplete and decided to try to obtain a fully equipped station. This led him on to amateur radio, and a general interest in the airborne radio/radar of WW2.

He discovered that a number of "special" versions of this equipment were produced, including airfield beacons, wireless truck versions with wire recorders attached for "spoof" transmissions during the D-Day build up, and a Navy version with a crystal-controlled box in place of the valve cover plate (different to the Coastal Command versions, with the R1155L & N, and the T1154L having "top band".) There was also a civil version produced, the AD87B/AD87D, the major difference being an Auxiliary Crystal Drive (type 859C) which could be switched in.

Phil was given some spares by a company near London Airport that had refurbished ten 1154/1155s circa 1970 for use in Air-Sea-Rescue launches, and rumour has it, he says, that Stansted Airport was using one as a beacon until a few years ago.

Lancaster setting

He has mounted his equipment in a replica section of the interior of a Lancaster bomber (see photo), with everything in its original place. He has a T1154B and an R1155E. He says "The transmitter for the Lancaster should be a T1154J. However I cannot find one so the 'B' (any other bombers) will have to do unless any reader of MM knows of one I can obtain?" He hopes to use the transmitter on the air one day. He says, "I shall take the Morse test when a bit more time presents itself for practice."



Phil Racher's 1154B/1155E
in a "Lancaster" setting.

"The 'Fishpond' (Indicator 182A) was part of the H2S radar system and was next to the R1155. Its primary function was to watch for night fighters. Mine is driven by a record player motor attached to a magslip with the heater voltage fed through to give the sweep."

Affinity

LARRY ROBINSON, located at Tamworth in Staffordshire, says "A working life spent with valve equipment has left me with an affinity for those 'built like a battleship' products of yesteryear. They were built to last and it is surprising how often only minor attention is needed to bring dead 'uns back to life." He suggests, however, that success is inversely proportional to any lack of previous 'restorations', as attempts to improve performance can often result in poor reliability.

Having recently restored some early communication receivers, Larry sought further challenges. With an interest kindled by a RAFARS equipment display at the "White Rose" Rally, he obtained a T1154M transmitter and an R1155A receiver and "with this quite impressive aircraft communication system in the shack", he found a growing interest in WW2 radio.

Larry did not wish to modify the original items in any way, but problems soon arose. The anodes of the two VT104 valves, for instance need 1,200 volts, which he found a bit worrysome. "After all," he says, "a transformer driven power supply with this output packs quite a wallop!"

Reduced voltage

He considered changing the output valves to a pair of 807's, but that would be too easy, "'cos I'm a glutton for punishment!". As it turned out, he discovered that the VT104s would operate at a much reduced voltage. He built a simple power supply for the H.T., with 3 x 2 volt NiFe cells for the L.T. supply and "these, together with the existing shack antenna changeover relay, receiver mute and receiver power unit, enabled the system to be fired up. The resulting low power signals from what turned out to be a 'Heath Robinson' affair were very satisfying, but hardly commendable."

"Further work is needed to make a permanent installation. Routing the receiver control circuit via the transmitter as intended would be a nice touch, as would the addition of some period accessories, now being sought.

And the hotch potch of units needs tidying and hiding when suitable plugs and sockets have been obtained." (Since writing this, Larry has accumulated quite an amount of information, "bits and pieces", and "contacts". If other readers have knowledge of, or are interested in this equipment he would be pleased to hear from them and to help in any way he can.)

With the completion of a new antenna system, Larry hopes to use this well known WW2 combination on the 80m amateur band with QRP (low power) levels via an output attenuator and "J" switch. He says, "Perhaps we will meet on the "Bath Tub key"?

Communication workhorse

JOHN McDONNELL, from Helston in Cornwall, has also converted his T1154/R1155 for QRP operation, again with the original RAF type F key. He says, "this combination will no doubt be familiar to many older readers of MM as it was the airborne communication workhorse of Bomber and Coastal Commands during and after WW2, and was also used in early post-war piston engined civil aircraft such as the Lancastrian and York."

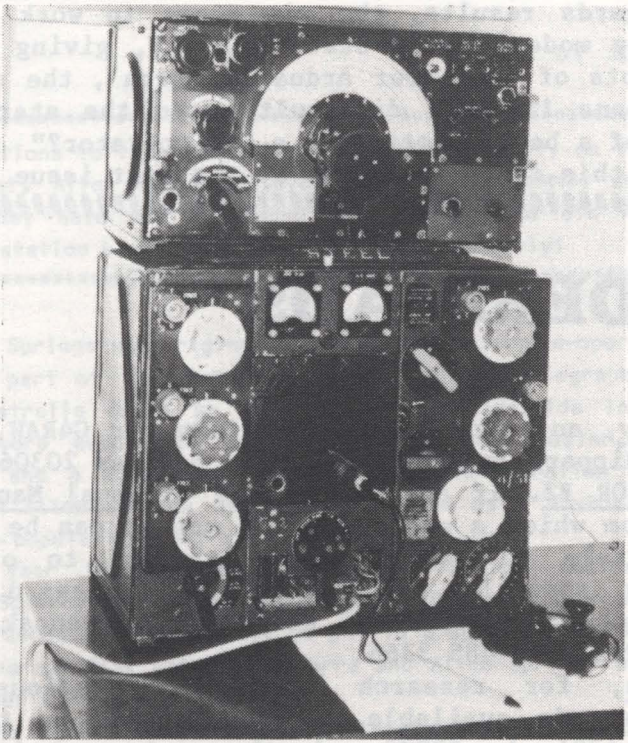
"One thing which will raise the eyebrows of such experts is the mention of QRP. As they will be well aware that the parallel connected VT104 PA valves were capable of delivering about 100W output on c.w. and 30W of suppressor grid modulated a.m. telephony."

"Here I must admit to making one of the few modifications to the equipment. These two valves have been replaced by a single 6V6 tetrode which quite happily provides an r.f. output of 2W when driven by the original VT106 master oscillator. Fitting the 6V6 also allowed another useful mod, the notorious 'Magnetic Relay Type 85' keying/antenna changeover relay being replaced by a grid block keying circuit."

"This means the rig can now be keyed at a reasonable speed without the relay refusing to follow. (Yes, I know the 'Clever Dicks' used to connect the spare 2V accumulator used with the A1134 intercom in series with the key, the extra voltage making all the difference to the operation of the relay - but that was just as much an 'unofficial mod' as my grid block keying!)."

"With these mods there is still a very slight chirp when keying, but it is quite acceptable. The only other important change I have made is to instal a small

John McDonnell's 1154/155
QRP station.



bandspread capacitor to ease netting on the highest frequency range. This now occupies the hole on the left hand lower side of the PA cover panel, opposite the key jack."

Ham generosity

John's outfit started initially with only the T1154 and the type F key. The addition of the R1155 was a typical act of ham generosity. Having mentioned to Nor McIntosh GM3RKO, that he was getting the T1154 operational, John shortly after received a large and unexpected package containing an R1155 very kindly donated by Nor to complete the station.

The receiver is very much in its original state except for the post-war modifications made to convert it to mains supply operation and amateur use. John says, "Thousands of these receivers were so modified in the years immediately after WW2, when they could be bought as surplus for a few pounds, but sadly most of them have now

gone to the Great Junk Yard in the Sky. Hundreds of post-war amateurs must have made their first contacts with them."

"As regards results, the rig seems to work just as well as any modern solid state QRP rig, giving lots of QSOs and lots of fun. 'Per Ardua ad Astra', the motto of the RAF means 'Through difficulties to the stars'. Can you think of a better motto for a QRP operator?"

(Part 2 of this feature will be in the next issue of MM.)

##

READERS' ADS

WANTED

Big old key, any condition. Steve Ortmayer G4RAW, 14 The Crescent, Hipperholme, HX3 8NQ. Tel: Halifax 203062.

CW XTALS FOR B2. If anyone has the Original Manual for the B2, from which a master set of copies can be made, I will undertake to supply copies thereof to other B2 enthusiasts strictly at cost. T.I. Lundegard G3GJW, "Saxby", Botsom Lane, West Kingsdown, Sevenoaks, Kent TN15 6BL. Tel: 047 485 3366.

Information, for research project on various Morse training records available on 33 1/3 LP's in the mid-60's/early '70's by G3CHS and others. Anyone with info, or the records themselves, please contact Steve Evans GØEVJ, 181 Curburough Road, Lichfield, Staffs WS13 7PW. Tel: 0543 251915.

Mac key or Vibroplex, any condition. Tom Hamilton GØHIN, 116 Upper Chobham Road, Camberley, Surrey GU15 1EJ, England. Tel: Camberley 24482.

Pair of ROTARY CONVERTERS to power recently restored 1154/1155. Owners of 1154's and 1155's invited to contact me for exchange of information and possible future formation of 1154/1155 user group. Larry Robinson GØHTR, 82 Grassholme, Stoneydelph, Wilnecote, Tamworth, B77 4BZ.

FOR SALE

All back issues of MM are still available, but if you are thinking of making up a full set please note that supplies of Nrs 5 and 7 are getting low. Price per copy - UK, £1.65; EUROPE or SURFACE worldwide, £1.75 (US$2.75); Less 10% if more than 4 issues ordered at same time.

OPERATION ALICE

by JOHN HOULDER

****

Congratulations to the Sydney Morsecodians Fraternity on their greatest exploit yet. After their achievements at Dubbo (MM7) and Timbertown (MM10), they have now succeeded in bringing the old Alice Springs telegraph station back to life - possibly permanently!

****

Alice Springs was originally one of eleven single-operator repeater stations, part of the legendary Great Overland Telegraph Line, which linked Australia north to south, Darwin to Adelaide in 1872. These stations were eventually staffed by a station master, up to four operators and a lineman. Although it ceased operation in 1932, the station at Alice Springs has been preserved as a historical site and today is a popular tourist attraction.

Last year I began negotiating with Telecom Australia and the National Science and Technology Centre, Canberra, on behalf of the Sydney Morsecodians Fraternity, to put in a special Heritage week "old-time" telegraph link between Canberra and Alice Springs and the result exceeded our wildest expectations.

Telecom agreed to provide the circuit late in 1988. At the same time the Science and Technology people promised to build us a permanent operating position, to be ready by November, if we would supply the equipment.

Outstanding

In the event the position was finally completed at 4 p.m. on Friday 14th April, with the circuit scheduled to start on Monday 17th April. You can't cut it much finer than that! However, the whole thing was well worth waiting for. It was a first class professional job, flood-lit with hidden lights, and quite outstanding.

For the operation Telecom workshops manufactured two new resonator boxes, from original drawings, at a cost to them of $1500 (Aust). They were so proud of them they packed them like eggs and drove them down from Sydney to hand them over to me.

Generous help

Thanks to financial assistance from Telecom and the Northern Territory Conservation Commission, plus "passing the hat round" at our annual General Meeting in Sydney, we were able to send three operators by air to Alice and provide motel accommodation for the week.

They operated the original equipment, key, sounders, galvonometer, line relay, etc, all left there when the station closed in 1932. Two more of our members, who by coincidence were on holiday in Alice, assisted as well, mainly by explaining to the public what was going on.

While in Alice our members also conducted practical workshops for rangers and teachers on the use of the Overland Telegraph equipment - to help with explanations for future visitors to the station, school parties, etc.

Back in Canberra we had 10 members manning the station at the Science and Technology Centre which, during the week, had just under 10,000 visitors. There was a lot of interest in the station which was displaying a beautiful print of the building at the Alice Springs end.

New technology!

While we were operating we explained to visitors that another sounder was clicking away inside that building halfway across Australia.

We were frequently asked how the signal got to Alice and explained that it travelled up the Telecom Tower in Canberra thence by microwave link to Sydney where it was turned round and fired down to Adelaide and across to Port Augusta.

From there it followed a new underground fibre optic route part of the way to Alice, then back into the microwave circuit to the Alice Springs telephone exchange and finally by cable from the exchange to the telegraph station about $2\frac{1}{2}$ miles out of town.

Despite all the modern hi-tech equipment about today this was quite mind boggling to many of the visitors and I think some of them thought we were displaying some new kind of technology!

Official messages

On Thursday, 20th April, we had the official exchange of messages between the Mayor of Alice Springs and the Minister for the Australian Capital Territory (Canberra), with good coverage from TV and the press. The messages were quite lengthy, about 180 words each, but transmission and reception went off without a hitch.

I had the Minister resting his rather rotund figure on my left shoulder while I was transmitting his reply! The TV network did it very well as they showed me transmitting the message and then spliced in tape of Gordon Hill, President of the Morsecodians Fraternity, receiving the message in Alice and handing it to the Mayor. It looked great!

Carnival atmosphere

One of our chaps in Alice, Reg (Curly) Moger, went on a national radio show called "Australia All Over" on the last Sunday morning. This goes out live all over Australia and has a tremendous following in country areas. Alice Springs always has a lot of tourists and many of these had not been aware that the the Telegraph Station had come to life for the first time since 1932.

As a result of the broadcast they turned out in force to visit the station and the whole thing took on a carnival atmosphere, with barbecues, etc, being set up in the grounds.

Annual event!

In view of the success of the operation Telecom have asked if we would be prepared to do it again next year, and for that matter could we make it an annual event!

In addition to the Alice Springs circuit they are now negotiating with the new Power House Museum in Sydney (a museum in a converted powerhouse) with a view to putting in a permanent circuit between Canberra and Sydney.

We haven't discussed it in detail yet but I envisage we would operate this two Saturday afternoons a month. I have also suggested that if the Alice circuit is to remain as a permanent arrangement we could use a combiner (telegraph repeater) to transmit the Canberra/Sydney signals to Alice.

Although there would be no operators there, rangers would be able to explain to visitors that the signals they were hearing were being generated in Sydney and Canberra. I have had no response yet to this suggestion.

Incidentally, the local Telecom technical people in Canberra have been very helpful too. They have constructed two repeater units from cannibalised parts and are in the process of constructing a further two.

The intention is that if we have circuits anywhere in Australia these units can be shipped ahead with instructions for the local Technicians on how to instal them. Although the equipment by present day standards is very simple most of the technicians around today have never been involved with Morse equipment.

Plans found

There is a further development on the historical front. The original plans of the Telegraph Office of the Victorian Ballarat Goldfields have been found. It is planned to re-build the Office as a working station at the re-created goldmining town of Sovereign Hill in Ballarat. I hope to report on this interesting development in a later issue of MM.

****

MUSEUM WORK

Regarding "Museum Piece" (MM12, p.48) I too managed a visit to the Royal Signals Museum recently, which I agree is well worth a visit. It was sobering for me too. Many of the items of test equipment displayed I still have to use at work. It makes me feel that I work in a museum!

Dennis Goacher, G3LLZ.

Just rambling ....

The Nottingham Morse Seminar, held on May 27, is reported in this issue (p.34). There can be few, if any, all-Morse events nowadays in the UK and those unable to attend missed a really fine "Morse day", with all proceeds going to the Radio Amateur Invalid and Blind Club.

Ron Wilson and his band of helpers are to be congratulated on their fine work. They are hoping that the seminar will become an annual event and they deserve every support in their efforts to give a higher profile to amateur radio Morse operating.

The European CW Association's major event of the year, its Fraternising CW Party, will be held on November 18-19, and is open to all amateurs whether they are members of EUCW clubs or not. Full details are given on p.43.

I hope many MM readers will be able to participate. EUCW exists to encourage and defend amateur CW operation, and its activities are very worthwhile.

Renewal subscriptions have been coming in since the last issue of MM but inevitably there is the usual percentage of non-renewals. Some, sadly, have gone silent key. Some have found that MM is not entirely to their liking, and others with restricted incomes just cannot afford the mag on top of everything else. As a result there are still not enough new subscribers over the year to replace those dropping out.

While I have received very encouraging comments about the mag from many who have renewed I feel it only fair to give advance notice that it may not be possible for me to continue publishing MM after issue Nr 16.

However, I should like to see the magazine continue, if at all possible, under new management. So if anyone would like to consider taking it over please contact me to discuss possibilities. There's quite a lot of work involved, albeit very satisfying and absorbing, and it really needs at least two people to handle it. If necessary I could give support and advice at least over an interim period.

Please give the future of MM some thought. Any practical suggestions to ensure its continuation will be most welcome.

73, Tony.

The Line to Ireland

****
Reader Alan Williams, G3KSU, has in his possession a length of what appears to be the original submarine cable from the first (1853) telegraph link between mainland Britain and Ireland. The background to this intriguing artifact is as follows:
****

In August 1851, the English & Irish Magnetic Telegraph Company was formed to provide links between England and Ireland by means of the submarine telegraph.

At that time many lines in England used Cooke & Wheatsone's needle instrument or some derivation of it. The EIM in fact used Henley and Forster's magneto-electric two-needle system (improved on by the Messrs Bright) which dispensed with the need for batteries.

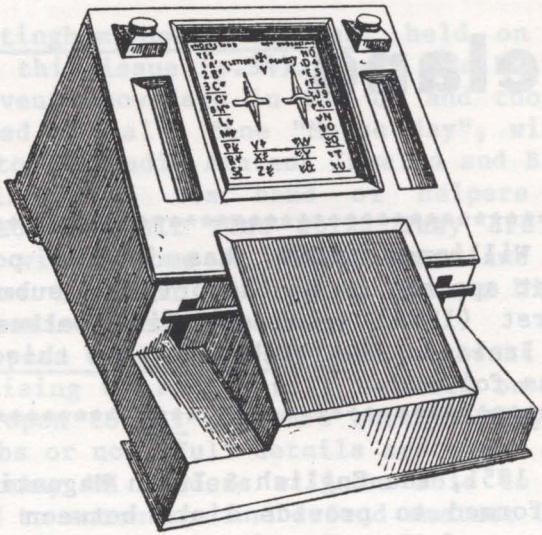
Momentary currents were generated by electro-magnets moved in close proximity to permanent magnets in the transmitters as the signalling levers on either side of the instrument were operated. These currents deflected twin needles at the receiving station allowing the signals to be read visually.

By July 1854, the company had over 2,000 miles of telegraph lines with 13,000 miles of wire in active operation and had successfully achieved its proposed telegraphic link with Ireland.

At the opening of Parliament that year, for example, the Queen's speech was supplied verbatim to the Belfast journals at 2.25 p.m., to Dublin at 2.40 p.m., and Cork at 3.20 p.m on the day of its delivery.

To carry this traffic an underground line of ten wires ran from London to Liverpool via Manchester, and one of six wires from Liverpool to Portpatrick and from thence to Belfast, with overhead wires continuing to Cork.

Henley's magnetic needle telegraph
(Lardner's Museum of Science, 1854)



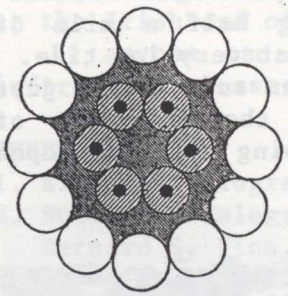
Problems at first

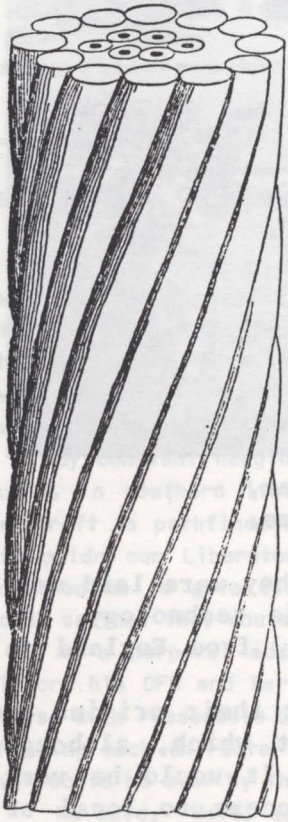
The submarine link had not been made without difficulty however. The first attempt was made in June 1852, using 64 miles of cable laid between Holyhead and Howth, near Dublin. Weighing only one ton per mile, this relatively lightweight cable carried signals for just three days before communication mysteriously ceased. At a later date a break was found near Howth, associated with stretching of the cable, and it was then supposed that a ship's anchor had dragged and broken the line.

Later that year Newall and Company, wire-rope makers of Gateshead, attempted to lay a cable across the narrowest part of the Irish channel, between Portpatrick and Donaghadee, a distance of some 21 miles. Seven miles from the Irish coast a sudden gale rendered the ship unsteerable and it became necessary to cut the cable.

Success!

In 1853, under the supervision of Charles T. Bright, (who later supervised the laying of the Atlantic cables of 1857 and 1858) another cable, also made by Newalls, was finally successfully laid from Portpatrick to Donaghadee. This contained six copper conducting wires insulated by gutta percha all surrounded by a layer





of tarred hemp, with an external casing comprising twelve heavy iron wires. See illustration from Lardner (left). The cable was 25 miles long, and weighed seven tons per mile. It took 24 days to manufacture, and cost £13,000.

A similar cable, 27 miles long was laid shortly after, between the same points, by the British Electric Telegraph Company. This company, in 1857, merged with the EIM to form the British and Irish Magnetic Telegraph Company, usually referred to as the "Magnetic".

Still on site

Alan Williams recently visited the sites near Portpatrick where these cables came ashore. One is at Mora Bay (shown as "Port Mora" on the map and known as "Sandeel Bay" locally, and the other at Kale Bay ("Port Kale" on the map and "Laird's Bay" locally), while there is a further site to the north of Knock Bay.

For the intrepid explorer wishing to visit the sites to inspect the remains of these early cables Alan has provided the following national grid references:

Mora Bay, NW 992-552: Buried cable.

Kale Bay, NW 991-553: Disused Cable House, a quaint cottage-like building acquired by the Post Office in 1870 and recently "gifted" to the local Dunskey Estate. The building consists of two empty rooms still in good condition, but is no longer marked as a cable house on the maps. Both of these sites are on the "Southern Upland Way" footpath which, says Alan, "requires stout boots!"

Knock Bay, NW 980-581: Ruin of Cable House (marked on maps), consisting of little more than roof timbers and rubble, with its two cables viewable at low tide.

Access to this site, from the car park near Killantringan Lighthouse, is difficult along half a mile of boulder strewn beach but may be easier at very low tide.

In the case of the cable houses, Alan says "It is just a question of walking from them in the direction of Northern Ireland, at low tide, and keeping your eyes open for the cable".

Knock Bay Cables, November, 1988. PHOTO: Alan Williams.

More information?

These cables are most interesting. They were laid very early in the history of submarine cable technology, not long after the first practicable cable, from England to France, was laid in 1851.

The information presented here about their origins is based mainly on Lardner's 1854 account which, although credible, has certain inconsistencies. It would be very helpful if any readers of MM having access to local or national Scottish newspapers, or other literature, from 1852 onwards could find references to these cables to confirm which companies used the different sites found by Alan Williams, and perhaps explain why there seem to three and not two sites as mentioned by Lardner.

It would also be interesting to know how long the cables remained in operation; if they eventually carried Morse traffic when the original double-needle instruments

were no longer used; and also something about the set up at the Irish end of the link.

If anyone can help in any way in providing further information please contact the editor.

REFERENCES:
1. Electric Telegraph, J.L. Kieve, David & Charles, 1973.
2. Submarine Telegraphy, The Grand Victorian Technology, Bernard S. Finn, Science Museum, London, 1973.
3. The Electric Telegraph. Lardners Museum of Science and Art, Walton & Maberly, 1854.

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JUST SEND IT SLOWLY

Here's one story where Morse didn't provide the answer!

I was so keen to be a wireless operator in the RAF in 1941 that I went to Morse evening classes at the Air Training Corps (ATC) three times a week. Once in the RAF they insisted that I sat through all the hours of slow Morse lessons and I tried to see how many times I could write each character. I passed out top of the class and to my disgust was retained as an instructor!

By constant nagging I achieved a posting to an operational bomber unit. In southern Italy in 1944 it was decided to use fast Mosquito aircraft as pathfinders to mark targets at night with coloured flares - to guide our Liberator bombers onto their target. One day, our C.O. ordered me to give six Mosquito navigators a "quick course" in Morse code so that they could communicate with the bomber wireless operators!

As a corporal addressing a Group Captain, I had the temerity to ignore his DFC and Bar and explain that to be able to send and receive Morse at a reasonable 20 wpm one needed three months intensive training, hearing each character some 20,000 times - and I was rather hoping the war would be over by then!

He said, "Well, send it very slowly when you teach them." "I can leave long gaps", I insisted, "but if, for example, I send the letter 'C' very slowly it will become 'T-E-T-E'...."

He pulled rank; the classes started; and the small group of navigators soon decided that they did not like Samuel Morse and did not want to hear his code. The C.O. gave in and quickly evolved a system whereby the pilots communicated briefly over the target by radio telephony, in plain language, on 116.1 Mc/s.

Jack Pemberton, G3DOZ.

WHAT A SURPRISE!

by GRAEME WORMALD, G3GGL.

My paternal grandfather, Walter Wormald , was a quiet and unassuming man. Born in 1873, the son of a blacksmith, he exhibited none of of his father's practical skills and, in fact, had great difficulty in telling the difference between a hammer and a screwdriver.

He never used either; his skills lay in administration where he spent a lifetime building up the resources of one of those great Victorian institutions, as the General Secretary of the Leeds Workspeoples' Hospital Fund. He retired in 1939 and spent the next 19 years quietly smoking his pipe and playing bowls. I had very little in common with him except, possibly, a share in his imperturbability.

In 1949, as a 17 year-old schoolboy, I had just passed the Radio Amateurs' Examination (no class B in those days) and was spending every waking moment practising Morse for my impending Post Office test. My key was always in my pocket. One Sunday afternoon whilst on a family visit to grandfather's I was sitting quietly at the table clicking away.

I hadn't even bothered to explain to grandfather what I was doing; he wouldn't have understood. My concentration on my wrist action was interrupted by an irregular thumping sound coming from grandfather's armchair. His eyes were staring unfocussed at the opposite wall and his fingers were beating a strange tattoo on the chair arms. Left-right, right-left-left-left, right-left-right-left....

I couldn't believe it! "How long have you known the Morse code?" I cried. "Since I left school", he replied. "When the village post office had its telegraph installed I was their first operator".

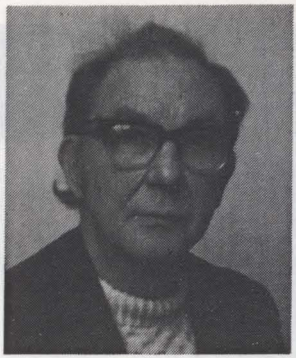
Grandfather as
I knew him.
Walter Wormald
(1939).

Rothwell's first
telegraph operator,
c.1887.

You could have knocked me down with a feather! "I remember the day the telegraph office first opened for business", said grandfather (this was in the village of Rothwell in the West Riding of Yorkshire), "a little old lady came in and sent a message to her daughter in Leeds. She filled in the telegram amd passed it to me; I sent it to Leeds in about two minutes but she wouldn't leave the office. 'What's the matter?' I asked her. 'Hurry up and send that telegram' she replied. 'It's gone', I said. 'No it hasn't,' she said, 'It's still on the table in front of you!'".....

I don't know how grandfather got out of that one, but it all goes to show that you can take nothing for granted!

In Yugoslavia with the B2



PART 2

by LEN KEY, M.B.E., GØFQX.

On 25th July we were bombed for the first time, by a Dornier 215, which dropped ten bombs. We ran into the orchard for cover and took potshots at the aircraft with sten guns and an assortment of automatic weapons, which we had swapped earlier for our 9mm pistols, but we didn't score any hits. This daylight bombing became a regular feature. Our American friend commented one day, "I don't know how you guys stand this all the time, its much safer flying!"

In view of the intensity of the bombing, it was decided to evacuate the strip for a short while so we moved to a small village called Yorge, about 3 miles distant. The bombing continued until late August, by which time we had returned to our original quarters.

Our supplies stopped for what seemed a very long time. The partisans ran short of medical supplies and it was rumoured they were carrying out amputations without anaesthetic, as they had done in the past. Food, cigarettes and tobacco were in very short supply. Having been without meat for several weeks, we shot a hare with a burst of a sten gun. On our return, feeling very pleased with ourselves, we were rebuked for causing panic among the partisans who thought we had been attacked. However all was forgiven later as we tucked into roast hare.

Fishing

To supplement our meagre fare we tried an unusual way of fishing; this time we told everyone what we going to do. We fired a .303 rifle into the nearby river, a little way from some fish. The ensuing water pressure killed the fish which floated to the surface. Unfortunately they were too small to eat so we gave up that idea.

Things became worse and it was decided that the youngest members would tramp 20 miles or so, accompanied by a partisan guide, to beg, borrow, or steal supplies from another unit. On reflection it was unwise to send both operators, but at the time it made sense. The C.O. couldn't go, the sergeant and the medic were getting on in years so we were the obvious choice.

The guide led us through woods and forest, keeping to paths on high ground seldom used, if at all, by enemy forces, ie, the Ustase (Yugoslav

collaborators), the Germans, or any other faction fighting the partisans. It seemed more like 50 than 20 miles. When we arrived we were shattered although the guide looked as if he had just been out for a stroll to the local shops - which of course they didn't have!

A few tots

The partisan group were surprised and pleased to see us and our guide explained the reason for our mission. They gave us a meal and, of course, a few tots of Rakia. This was the local brew; made originally from plums or grapes this version was distilled from pears. It looked like water, tasted like burnt whiskey and had a kick like a mule.

During the night the area was attacked and at one stage was nearly evacuated. We slept through it all (it wasn't the Rakia!), and the partisans were very amused at the look on our faces when they told us what had happened next morning. Our haversacks were packed with "goodies" and with much hand shaking and waving we started on our return journey.

Supplies eventually resumed in September with both parachute drops and landings. Some chutes failed to open and the metal supply canisters buried themselves in the ground. Nothing was wasted. The parachute silk was made into dresses by the women, and the men used the canisters to make utensils, stoves, etc.

Lightnings

A signal was received that a DC3, escorted by American Lockheed Lightnings, would land in daylight to evacuate the severely wounded and take some partisan commanders to an important meeting in Italy. When the aircraft landed its contents were quickly unloaded by dozens of partisans, while others already had the wounded ready to board the plane. The last on board were the partisan commanders. Meanwhile the Lightnings had arrived and were circling the field.

Just then a German single-engined aircraft appeared, took one look and beat a hasty retreat. One of the Lightnings went after it. I don't know the outcome but the Lightning returned a few minutes later and continued circling.

The DC3 was on the ground for 5 or 6 minutes at the most. As it started to taxi, one wheel sank into a recently filled crater. Everyone tore down branches from surrounding trees and put them under the wheel. By this time the leader of the Lightnings was waggling his wings to hurry us up; he was obviously concerned about the amount of fuel he had left. With lots of engine revving and pushing, the DC3 made it and took off with sighs of relief all round.

Interrogation

Prior to the commanders leaving for Italy we had been invited to meet them and others by the British Liaison Officer. The meeting took place a few miles from the strip in a clearing surrounded by woods, ideal for a quick get-away if necessary. During the meeting, the B.L.O.

interrogated a Ustase prisoner. Later he was led away and I didn't fancy his chances of survival. The Ustase collaborators had committed some terrible atrocities against the partisans in the early part of the war.

On a lighter side, at the end of the summer we were invited to a festival (I've forgotten its name) to celebrate a good harvest of fruit. There were two large vats containing pears and, accompanied by a rusty old concertina, the girls hoisted up their skirts and trampled the fruit with their bare feet. There was much laughing, giggling, singing and dancing to the music, with all the locals joining in. We couldn't understand a thing, but it made a pleasant change.

The political commissar was married about that time. I suppose that as he was a non-combatant he was given permission by the partisan hierarchy. It was another good reason for a celebration!

Survivors

Landings continued until mid-October when we had unusually heavy rains. On clear days we saw American bombers, probably on their way to Budapest. Sometimes we heard the sound of bombs faintly in the distance. Other partisans had collected a number of shot-down American airmen and were looking after them, although we still had just the one.

We had been sent a radio beacon and because the strip was again unserviceable 3 Halifaxes were expected to drop supplies in daylight. With 10 minutes to go I pressed the button on the beacon, sending the recognition signal followed by a long dash. A few miles to the east, I saw a Halifax off course, heading for Hungary. I again pressed the button and it gave me great satisfaction to see the plane swing round and head directly for the landing strip, dropping its load after an exchange of recognition signals.

Time to go

In December, despite much work by the partisans under the direction of our C.O., the strip was flooded and unusable and it was decided we should leave. We were to take the B2 and charging set with us as these items were in short supply back at base. Everything else was to be handed over to the B.L.O. apart from our weapons and a few personal items. It was a tearful farewell when we came to say goodbye to the lovely old Jewish lady who had been our cook. As the youngest members of our party, we two radio operators had been treated like adopted sons. We said we would go back after the war to see her again, but for various reasons we never did.

We left on December 16, a party of 57. There were some 20 American flyers, our little party, the rest prisoners of war. Horses and carts were provided and we either walked or rode in the carts, being escorted by a band of partisans. The village of Slatina, previously held by enemy forces, was deserted as we passed through it. A poster nailed to a telegraph pole was still legible. Roughly translated, it said, "Wanted,

dead or alive, any Allied personnel giving aid to the partisans". I felt as if I had just left the Wild West!

Goodbyes

We crossed the Drava River at Barcs, where we were handed over to the Russians. We then said goodbye to our partisan escort. During our stay in Yugoslavia, relations between the ordinary partisan soldiers and ourselves were excellent. Some of the officers, though, including the political commissar, were a bit trying at times. They were too political. We were there just to get the job done and were not interested in politics.

On 21st December, the whole party left for Paks where our C.O. informed the Russian authorities that we had been instructed to proceed to Belgrade to meet up with another B.A.T.S. party and be evacuated by air to our base in Italy. The Russians sent a signal to Moscow asking for permission to route us to Belgrade. Permission was refused and we were ordered to proceed to Bucharest. The C.O. objected strongly and after a long discussion it was agreed we could go to Belgrade.

Trucks were provided and, as we left, the Russian Major who had been in charge of our evacuation arrangements said, "Goodbye, I am sure you will like Bucharest".

All expenses paid

Eventually the C.O. calmed down and we all saw the funny side of the situation. We arrived by train in Bucharest 13 days after leaving Vocin. The Russians handed us over to the British Mission and we waited a further 3 weeks for the weather to clear sufficiently to allow an aircraft to land for us.

On our return to Brindisi we were given six months back pay. The sergeant and the rest of us were sent on two weeks leave to Rome, all expenses paid, where we visited St. Peter's and the Vatican, marvelled at the paintings and sculptures by Michelangelo, and had ourselves a good time.

No thank you!

Returning to base, I was asked if I would "drop" into Northern Italy to help a group with their communication net. I was given time to think it over. After much deliberation, I said that I had already served just over four years in the Middle East, and wanted to go home. It was agreed I could go.

I was in Naples, waiting to board a troopship bound for the UK when the ships in the harbour began sounding their sirens. It was V.E. Day.....

Magnificent B2

Throughout the whole period of operation in Yugoslavia the B2 behaved magnificently. We experienced no problems at all - a tribute to its designer - and the Morse key used was the original miniature one.

The Base operators were on continuous watch but we kept to schedule times which, if I remember correctly, were either two or three times a day, although we didn't necessarily use all these times. Weather reports were sent every two days, whether or not a drop or a landing was expected. If there was to be a drop, usually late at night or in the early hours, a special report was sent advising if the drop was feasible in terms of both weather and the serviceability of the airstrip.

As the B2 was more or less in constant use battery charging was most important, with the charger ticking over like a sewing machine throughout our whole stay. Sometimes we had difficulty in starting it but once it was going there were no problems.

The B2 was the ideal piece of equipment for this operation. When asked to change frequency by Base we could be on the new frequency in a matter of minutes, sometimes before the Base operator had changed-over on his receiver. It was lightweight (32lbs) in its suitcase and when the strip was attacked in July we were packed and ready to evacuate within a few minutes.

It was robust, with the inside of the suitcase padded to absorb some of the shock from heavy handling. The only criticism I had of this splendid equipment was the receiver tuning. However, once a note had been made of the appropriate number on the tuning dial (0-180) for a particular frequency it was easy to return to that frequency.

Incidentally, I still have a B2. It was built in 1944 and is still going strong. I have worked Sweden using a very crooked G5RV antenna from my poor location, receiving 549 on 40m, so it speaks for itself.

No offence

In this story no offence is intended to any readers who were, as one might say, "sitting on the other side of the fence". It all happened a long time ago and, I hope, is forgotten by both sides.

My thanks to MOD/RAF (Historical Section) and the Public Records Office for their help in providing me with names, places and dates. Any inaccuracies are entirely due to my inability to remember precise details.

++

ON THE FLOOR

I am the guy kneeling on the floor in the photo on page 10 of MM12, being like Ron Dow an ex-student of Liverpool Wireless College. I also own a copy of the photo, which was taken for publicity purposes. I think the chap with his back to the camera was Ron Lacey who I believe had, and may still have, an amateur call. Gus Taylor, G8PG.

(Sadly, Ron Dow died on 6th May and did not see his article in print. If any more ex-students are MM readers Gus would be pleased to hear from them. His address is 37 Pickerill Road, Greasby, Merseyside L49 3ND.)

KITCHEN TABLE

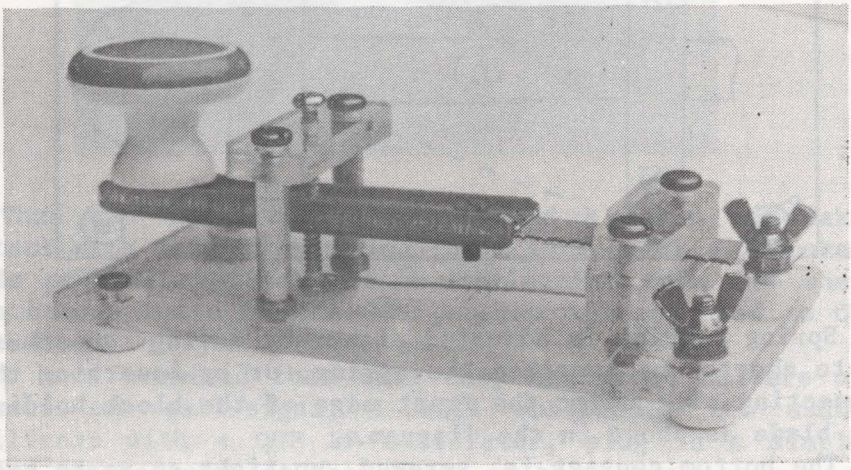
HOME-MADE KEY

Barrie E. Brokensha, ZS6AJY.

The home-made keys described in MM are usually well-engineered, requiring workshop facilities and an above average skill with tools. The one described here is of the "Kitchen Konstruction" type, the original idea being as old as the hills, and although very simple it has a good solid feel.

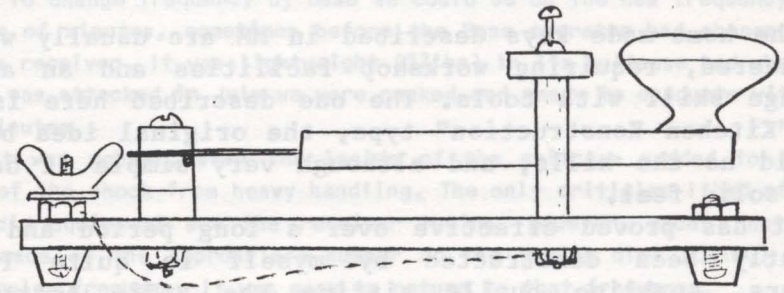
It has proved effective over a long period and has recently been constructed by myself in quite large numbers, enabling pupils sitting the Radio Amateurs' Examination to learn Morse at minimum outlay. The key is adequate for practice purposes and once the pupils have achieved some degree of speed they usually obtain something more to their liking.

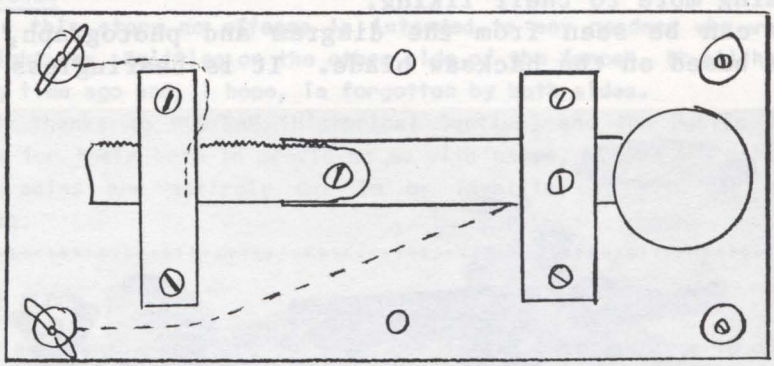
As can be seen from the diagram and photograph, the key is based on the hacksaw blade. It is bearingless and



requires the minimum of tools to build. I used 5mm thick perspex for all non-conducting parts but wood could also be used. The knob is a drawer knob; a selection is obtainable from any hardware store, as are the necessary nuts and bolts.

The most satisfactory metal bar so far found is a piece of curtain rail, also easily obtainable. The hack-saw blade fits nicely into it and cannot slip sideways. The blade must be an end piece with a hole already in it as it cannot be drilled. The terminals are the same bolts which hold the feet in place, small wing nuts being used on top.





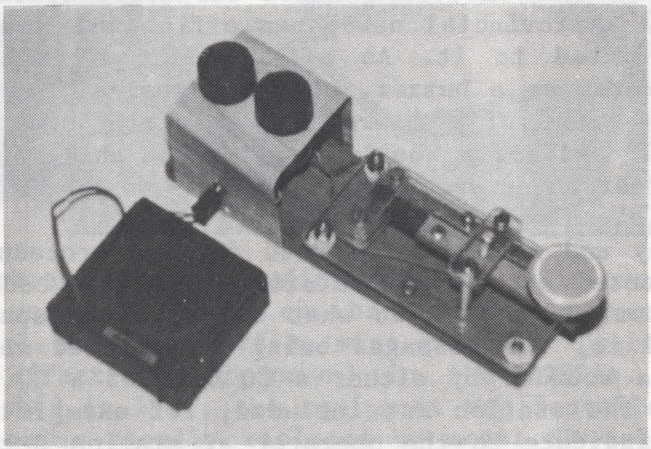
Spring tension is adjusted either by moving the arm so as to shorten or lengthen the spring, or by inserting the connecting wire under the front edge of the block holding the blade as shown in the diagram.

The bottom contact is screwed up tight so as to hold

the connecting wire, and the top self-tapping screw is adjusted to set the gap. Self-tapping screws must be used as they have a sharp point which forms the contact. This has worked well for long periods and is a satisfactory substitute for proper silver contacts.

There are no crucial dimensions, no bearings, and all the material is easily obtained. If you want more spring tension, use two hacksaw blades in parallel. If you are like me you will have an adequate supply of broken blades available!

For practical purposes when teaching classes it is best to have the whole Morse outfit as one unit. To this end the key is mounted on a piece of wood the same width as the key base. Behind the key, in a simple U shaped piece of tin, is the oscillator. The two knobs on top are the volume and tone controls, while the oscillator (the usual 555 IC) and PP3 battery are inside. A phone jack is on the side, into which a small speaker or earphone can be plugged.



Thus can the students sit around a table and make contact with each other using their sets, with all spoken words prohibited. Each has a distinctive tone and they soon become aware of the QRM problem and get used to CW procedures.

I have promised that when they are proud holders of tickets and call-signs, I will substitute the audio oscillator with a QRP RF oscillator, plug in a simple dipole antenna and let them loose on the bands.

More in response to the question posed in MM4, "What happened to the sounder?"

Demise of the Press Sounder

by FRED BARNES, G4LDE.

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The Creed system was a printing telegraph which used the Morse code. Fred Barnes describes how the key and sounder were used with this system in the newspaper industry.

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The sounder was still alive and well in British newspaper offices in 1948 but in that year had a heart attack which buried it for ever.

As a teenager in 1934 I heard the magic click of the sounder in a provincial newspaper office and immediately became addicted to it. As a Boy Scout I had quickly mastered Morse on a buzzer, but this musical magnification of the sound of a dummy key was really something! I was hooked: and for a weekly wage of ten shillings I began my career in newspaper telegraphy.

Procedure signals

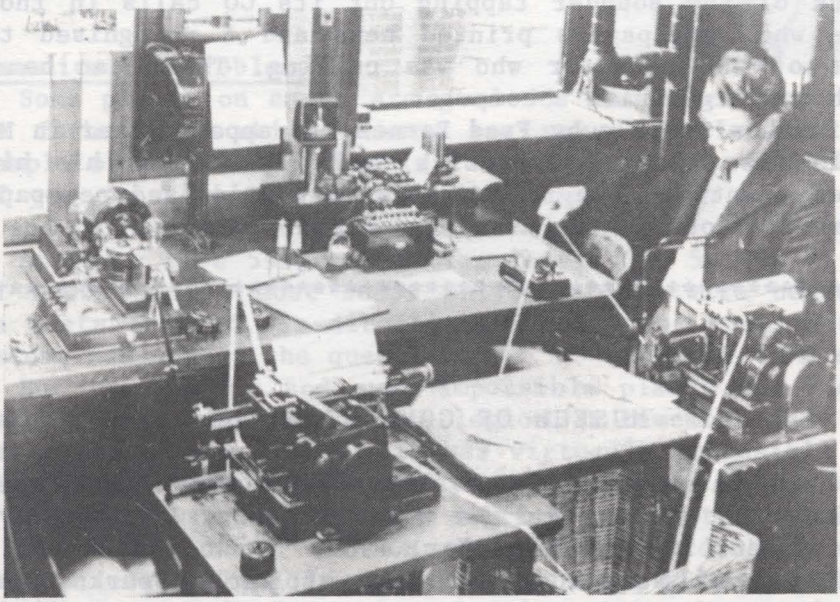
The key and sounder were used for all procedure signals connected with the Wheatstone tape produced on the reperforator. Depending on what service a newspaper had subscribed to, the messages being transmitted were prefixed on a sounder by either a CQ call or a CQ bar the letter of the station not included, for example "CQ bar C" would indicate to the operator at station C that the transmission was not intended for him.

The stations were identified by a single letter. My own office was letter C in a series of seven offices. At the end of a transmission each office gave an RD in turn. Any corrections or repeats were requested by an RQ, and a reply to that RQ was a BQ message.

Operational and private messages other than news came under the prefix SG. All racing results were keyed over the sounder before being confirmed by tape; and of course all chatter between operators was over the sounder too.

One circuit left

This system was in operation throughout WW2 but on my return from wireless operating with the Royal Signals the writing was on the wall for the teleprinter to take over. When it did, in 1948, we retained a sounder circuit between the wire room and the telephoto room, which was in another part of the office. But eventually both departments were combined and the sounder faded away.



The photo shows me reading the tape as it came through over 40 years ago. What can be seen is an example of a provincial newspaper office wire room (or Creed room as it was affectionately known) in the 1930's. Although photographed in 1947, the equipment was installed in the 1920's, being finally replaced by model 8B teleprinters in 1948/9.

Beautiful key

The sounder is mounted in its amplifying cowl adjacent to a pair of relays with change-over switch, above the Wheatstone bridge. The beautiful double-current key is to hand on the edge of the bench.

In the foreground are two Creed Column printers which transcribe the Morse tape coming from the Creed Reperforator on the left of the bench. Prior to the column printer, the Morse was transcribed onto another tape which was

then gummed down as in early telegram systems; but the column printer was a great advance on that.

No nostalgia

I have been retired some years now. I recently went into the revamped newspaper office where I used to work and sat for a moment in what was the wireroom. It is no longer there. The computer has destroyed the telegraphist. As I sat in silence I could hear the friendly click of the sounder tapping out its CQ calls in those days when newspapers printed news and I recognised the fist of the operator who was calling. There can be no such nostalgia with a computer.

(A further article by Fred Barnes, to appear later in MM, tells the story of Frederick George Creed and his high speed printing telegraph, which revolutionised newspaper communications in the early twentieth century.)

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Special Display

MUSEUM OF COMMUNICATION

Some interesting items from the museum's collection will be on display in the Upper Library, Bo'ness, over the weekend 16-18th September, 1989.

These will include examples of early spark transmission, telegraph and telephone mechanisms, a cylinder recorder and horn gramophone, crystal receivers, early single and multi-valve receivers, services communications receivers and transmitters, clandestine radios, search and rescue apparatus, signalling lamp, etc, etc. These are just a few of the many items collected over many years by the Curator of the collection, Harry Matthews.

Two articles relating to the Museum of Communication, "Sunken Key" and "A Hanging Matter", based on information provided by Harry Matthews, were included in MM4. If you visit the Bo'ness display and happen to meet Harry, be sure to mention your common interest in MM!

It could be a good day out. Bo'ness is also the home of the Kinneil and Bo'ness Steam Railway and steam trains will be operating on the 7 mile return journey to the Birkhill Clay Mine which was opened to the public this year by the Bo'ness Heritage Trust.

REFLECTIONS from Uncle Bas-8

Communication problems

Some places on earth are good for communication with the fatherland, while others are very troublesome. An example of a good location is the Tasman Sea. Around 0800 GMT you can achieve communication with Western Europe on 12 and 16 Mcs, depending on the season.

Amateurs give 599, and professionals QRK 5, QSK 5. We all know that on most ships only a simple wire between the masts is used, so directional aerials or complicated systems are out of the question.

But troublesome and even impossible places for radio communication with Europe are legion. I remember that in vast areas of the Pacific it was virtually impossible to make contact with PCH (Scheveningen). From the west coast of the USA it was especially difficult to get a message to the ship's owner via PCH. We could have done it via American coast stations, but PCH was cheaper, and we had to take account of that!

For messages to the ships, PCH had the so-called EU-service. Telegrams were broadcast blind at a stipulated time and when, some weeks later, the ship came within radio range receipt was acknowledged. This was often done with Christmas and New Year telegrams for ships sailing in distant areas and also for those lying in harbour.

Sometimes there were jokers who called PCH around sunset on 500 Kcs, moved to 454 and then transmitted a whole series of messages. Tribes of telegraphers on Dutch ships listened with open mouths to this phenomenon.

It was impossible! But the guy was keying and apparently receiving QSL too! It was beyond their understanding, but he was obviously doing it. He was called by everyone at the same time with the request, please, please, QSP to PCH. As you can guess, he didn't answer.

Who he was, we still don't know. (from DMM10)

A CLOSER LOOK AT THE

EDDYSTONE BUG

by COLIN WATERS, G3TSS.

Introduction

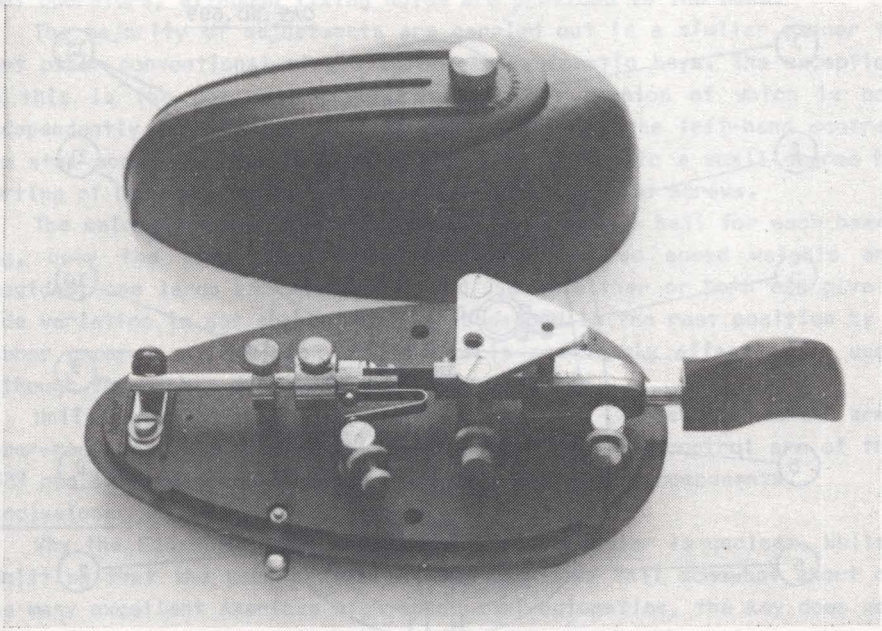
The Eddystone S689 Bug Key holds a unique position. It is, with one small but notable exception (the Autoplex of 1932), the only Morse key of semi-automatic design manufactured in Great Britain and sold in significant numbers.

Sadly, the key was never to attain a high degree of popularity, but its construction and appearance are enough to give it a great deal of character.

History

By the late 1940's, the Birmingham based Stratton and Company Ltd, later to become known as Eddystone Radio, had built up a fine reputation for the manufacture of high class communication receivers and accessories. But it was not until late 1947 that initial work was begun on the development of a semi-automatic Morse key.

The Eddystone S689 with cover removed.
Photo: Colin Waters



Mechanically, it was to follow the by then well-proven principle of Martin's 1904 Viproplex Original design, but in a style in keeping with the traditional Eddystone use of die-castings. After careful testing of shapes and materials for the various components, a number of pre-production models were assembled and evaluated by the radio amateurs working for the company, one of these pre-production models being displayed at the Amateur Radio Exhibition in November 1947.

The first production run was made in early 1948, when a batch of 250 keys was assembled. Unfortunately, sales proved poor although a second production run, again of 250, was planned for late 1948. It is almost certain, however, that only 100 or so of this batch were actually assembled.

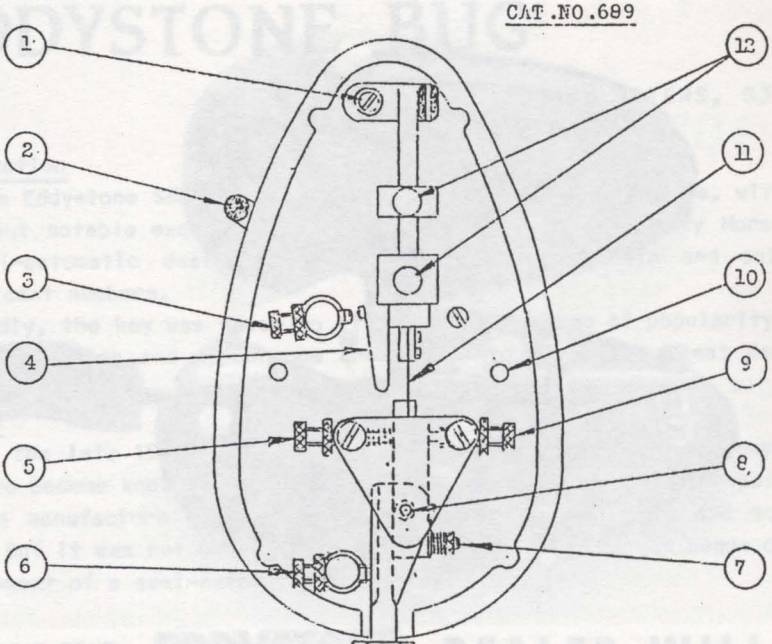
Although the S689 was undoubtedly liked by many users, sales of the key continued to be poor. Eventually the company, foreseeing no future improvement in its popularity, decided to offer the remaining assembled keys, and some unassembled components, as a job lot to Birmingham's Chas H. Young Amateur Radio Company, who placed the S689 on special offer and continued selling them until stocks were exhausted.

Construction

The key is almost entirely constructed of untreated brass and diecast aluminium, the base and cover being finished in the then almost

THE EDDYSTONE SEMI-AUTOMATIC MORSE KEY

CAT.NO.689



1. Back stop adjusting screw (Preset)
2. Shorting switch.
3. Dot contact adjusting screw (Preset)
4. Recoil spring and contact.
5. Return spring adjusting screw & control arm stop. L.H.
6. Dash contact adjusting screw.
7. Control lever return spring (Adjustable)
8. Ball pivots (Adjustable)
9. Control arm stop screw R.H. (adjustable)
10. Fixing holes (2½" Crs)
11. Vibrator spring.
12. Weight locking screws (For speed variation)

The Eddystone Morse Key is of really modern design. The streamlined diecast housing affords protection to the movement, which has received special attention and is a fine example of firstclass light engineering. The handle has been designed to give equal facility to a right- or left-handed operator.

The illustration above gives details of the various adjustments which can be made. These are all set at the factory to suit an average operator and little additional adjustment will normally be required, except, of course, to the weights which vary the keying speed.

An elastic band prevents the arm vibrating during transit and should be removed before the key is put into use.

Issued by: Stration & Co.Ltd.,
Eddystone Works,
Birmingham,31.

TSD/JNW/CMC/22348

obligatory black crackle or wrinkle paint. Despite the base and cover being aluminium, the weight of 2lb 14 ozs (1.304 kg) is adequate for most operators, although fixing holes are provided in the base.

The majority of adjustments are carried out in a similar manner to most other conventional single lever semi-automatic keys. The exception to this is the dot return coil spring, the tension of which is not independently adjustable. This spring is held by the left-hand control arm stop screw and the tension can only be varied to a small degree by setting of both the left-hand and the right-hand stop screws.

The main pivot pin bearings consist of a single ball for each bearing, only the lower of which is adjustable. Two speed weights are provided, one large and one small, and use of either or both can give a wide variation in dot speed. The arm is damped in the rest position by a rubber grommet on the back stop. This is remarkably effective in use, although the rubber does become brittle with age.

Unlike the majority of American designs, where the lever arm, lever-rod, and main spring are riveted together, the control arm of the S689 can be completely dismantled down to individual components.

Conclusions

Why the Eddystone S689 proved to be so unpopular is unclear. Whilst admitting that the general feel of the key does fall somewhat short of the many excellent American high speed semi-automatics, the key does not suffer from any major defect in design. The combination of a number of its shortcomings may, however, have been a contributory factor to its unpopularity.

The exact number of S689s produced is unknown, but it seems clear that the figure did not exceed 500. No serial plates were fitted to the keys. A number is stamped on a connecting strip on the underside of the base, the keys in the author's possession being numbered AG1995 and EZ0829.

Unfortunately, records do not exist concerning the sequence of these numbers, and the author has been unable to contact anyone who knows their significance. He would like to receive correspondence* from any readers of MM who have used, or still use, the Eddystone S689.

Acknowledgements

The author is grateful for the help given by the following in the preparation of this article:
Chris Pettit, Managing Director of Eddystone Radio Ltd.
Chas H. Young.
Bill Cooke, former Chief Engineer and Managing Director of Eddystone Radio Ltd, now retired after 50 years with the company, who provided all the dates and figures of production.

*Address: 1 Chantry Estate, Corbridge, Northumberland, NE45 5JH.

MORSE SEMINAR

A Morse Seminar was held on 27th May, 1989, at Arnold and Carlton College of Further Education, Nottingham, arranged by the College Amateur Radio Society. Some 60 visitors attended and clearly enjoyed 'having a go' at the various activities, and listening to the main talks by G2CVV on "The early days" and G4FAI on "The origins of Morse" plus a shorter talk on "How to operate a key".

Of considerable interest was a computer program which displayed the length of one's dits and dahs - to the dismay of many attempting to beat the computer using a pump key. Not many achieved perfect Morse! It is hoped to develop this program in time for next year to provide fingerprinting of an individual's sending.

The speed tests proved popular, though surprisingly no-one wanted the certificates offered! A well experienced gent requested numbers at 50 wpm, and to cheers from the assembled room achieved perfect copy.

Six straight keys, loaned by S.M.C., took some hammering - especially the gleaming brass one costing over £100 - as did the keyers and paddles from Dewsbury Electronics, with even their Morse keyboard having its share of interest! It was nice to be able to sit down and try them all relatively undisturbed.

From the 'sign-in' lists it appeared that about a quarter of the visitors were class B licensees, which was most encouraging, and about 12 of them took the mock tests to help them prepare for the real thing.

For a 'first-time' event there were a number of things which were not quite right but I was much encouraged by the number of folk who sought me out at the end and made very nice comments such as "The best publicity you could have was today - the word will spread!"

I must thank all the helpers. The event could not have taken place without their much appreciated assistance. One visitor asked where all the Nottingham folk were and was surprised to hear they were all helping!

Visitors completed questionnaires and made a goodly number of suggestions for the next seminar which nearly all said had to take place! I believe we shall be able to provide an even better 'show' next year!

Ron Wilson, G4NZU.

Looking back

Part 2

VIOLET E. WRIGHT (nee Clifford).

No mistakes!

The work (at the Exchange Telegraph Company) was exacting and there was no room for mistakes. A male operator in the London Stock Exchange (women were not permitted there then) sent Morse on a sounder which came out in the Cannon Street office on a tape which in turn was called out by another operator to a third operator who sent out the stock prices on a transmitter to all clubs and newspaper offices in London. This method is generally known as the ticker tape.

The Stock Exchange prices had to be received abroad within a few minutes - the Paris Bourse, Wall Street, South Africa, etc. If the operator made a mistake, his or her name appeared on a large board and was sent down to to the Company Director. If the same name appeared several times, the owner was taken off the service! So accuracy had to be observed. Nowadays it is all done by computers.

After I had been with Exchange Telegraph for about a year, I was sent with a reporter and a mechanic (to fix up my 'sounder') and a boy, to report on various company meetings in the City. The boy would rush the reporter's work to me and I would despatch it in Morse code to the Office where it would be sent out on the ticker tapes.

Whenever the Prince of Wales (later the Duke of Windsor) went to the City, I was sent with the team to report his speeches. On one occasion, when the Prince was attending a meeting at the Mansion House (the London Home of the Lord Mayor of London), I was set up in a room containing a number of nude statues.

Prince ignored!

As I was the only female, I found this somewhat embarrassing and when I heard some commotion going on behind me with much shuffling of policemen's feet, I immediately turned away and leaned on the window sill to look out. I heard a man's voice ask, "What is the young lady doing?" Someone replied that I was there to report his speech. Imagine how I felt when I turned round after they had gone and discovered that the 'voice' had been the Prince of Wales! Those policemen could not get over the fact that I had turned my back on the Prince of Wales!

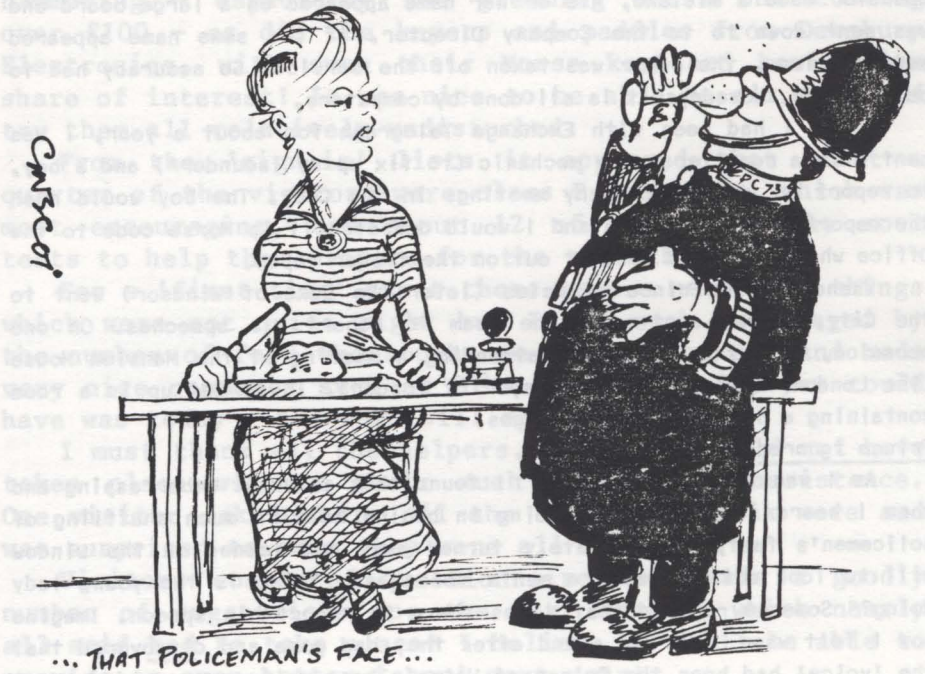
Another time our team was sent to the Guildhall to report on a banquet being given in honour of the Prince. A lofty City policeman stood by and watched me operating. After some time he asked me if I would like some refreshment from the Banqueting Hall.

I thanked him and answered that I would love something. I had visions of something delicate and delicious, but what do you think he brought? A baked potato in its jacket and a large glass of champagne. Although this happened many years ago, I can still recall with amusement the apologetic look on that policeman's face as I ate the potato and he drank the champagne!...

Please come back!

In 1923 I was married and expected to leave Exchange Telegraph to keep house for my husband and myself, but one morning I received a telegram: PLEASE RETURN IMMEDIATELY STOP. Well, I telephoned my husband to explain the situation and caught the next train to London.

Within a short time I was back in the operating room. There I found a heap of Morse tape on the floor with all the day's Stock Exchange prices on it. Everybody seemed relieved to see me and one man remarked, 'Talk about coming in at the kill!'



I had to read that Morse tape and send out the prices at the same time, pulling the tape across my knees while sending on the transmitter.... When I look back, I feel that was quite an achievement! This incident occurred during a severe influenza epidemic in 1923.

In 1924 there was more excitement. The electrical engineer in charge of our Department could not read Morse. He was working on a receiving telegraph instrument when he came rushing into the operations room calling, 'Miss Clifford, come quickly!'

N.Z. 'first'

I left my work and followed him. He plonked the earphones on my head and kept repeating, "Write it down, write it down!' I am afraid I cannot remember now the wording of that message but I do remember that it was the first telegraph message sent direct from New Zealand to London by Mr Frank Bell (Z-4AA. Ed) of Dunback, Otago.

The message was also picked up by an 18-year old schoolboy (Cecil Goyder, G2SZ. Ed) at Mill Hill School. Now the extraordinary part of this story is that many years later, when I went to live in New Zealand, I was watching television when who should appear on the screen, with the interviewer Bernard Buck, but the same Mr Frank Bell with his special transmitter! I telephoned the local television station and told them my story. They put me in touch with Mr Bell with whom I corresponded. Mr Bernard Buck asked me if I would like to help with another programme but I refused and I am rather sorry now that I did so.

In 1926 there was a General Strike in England and the staff were all accommodated at the Regent's Palace Hotel in Piccadilly Circus. While the Strike caused a grave crisis, we thought it was great fun for us, as we visited all the theatres in turn, returning to the Hotel at night. By this time I was back working and continued until 1929 when my baby daughter arrived. From then until the outbreak of the Second World War in 1939, I devoted my time to home and family.

First woman in the Stock Exchange!

The Second World War changed our lives in so many ways. I had to register for war work as did so many other women, and we also took part in Civil Defence.... Once again the Exchange Telegraph Company called me back. Several operators had been called up to do special duties, which is how I was allowed to enter the London Stock Exchange to work - the first woman ever to do so!

Sir Wilfred King, Chairman of Exchange Telegraph, had to supply me with a special pass to enter and I had a 'Waiter' to escort me across the floor of the Stock Exchange until the brokers became used to my presence there. I remained working in the Stock Exchange for over 7 years. Looking back, I don't know how I managed to do it!

For months I and my family slept in an air raid shelter which was little more than a wood-lined trench in the garden, and this was shared

Violet Wright in Extel's transmitting room
in the London Stock Exchange, c. 1946.

with our next-door neighbours; in all eight of us slept there, one being a baby who had both hips dislocated and was encased in plaster-of-paris from her armpits to her ankles. Imagine what it was like during the Battle of Britain and the Blitz - sheer Hell!....

Men working in the City of London in the day-time had to firewatch on the roof at night.... The firemen were absolute heroes and deserved bravery medals. [Some] mornings I was forced to step over fire hoses that the firemen were still using to dampen down the destruction of the night. No one who experienced this could ever forget it.

'You can't come in!'

My time at the Stock Exchange was not unrelieved by humour, however. On my first day I had received astonished looks of disbelief when I entered, accompanied by a commissionaire who was called a 'Waiter'. Even after three years one stockbroker tried to stop me. He stood with arms outstretched to bar my way and kept saying, 'You can't come in here, you can't come in here!' I just smiled and said, 'Yes I can, yes I can.' He then turned to the Waiter and said, 'She can't come in here, can she?' The Waiter replied, 'Yes she can!' It was really amusing to see the look on the stockbroker's face.

Because of a shortage of telegraphists, the transmitter which I had to work was brought over from Cannon Street to the Stock Exchange. Most of our telegraphists were engaged in monitoring work around the coasts of Britain, listening in and reporting to the secret de-coding complex at Bletchley Park, northwest of London.

Naturally, this complex was most heavily guarded and the people who worked there were sworn to secrecy, as indeed I was myself. One day one of the girls working there had been out with an American and when they returned to the gates, he wanted to go inside the area. He was refused but he then climbed up on top of the wall. A sentry challenged him, saying, 'If you don't get down, I will shoot - I shall tell you three times and if you don't obey, I will do it"! The American, who had been drinking, refused to get down, so he was shot....

End of the war

In the Spring of 1945 war ended in Europe amid great rejoicing.... A few months later the atomic bomb was dropped on Hiroshima and Nagasaki and the war with Japan was over. During the Nuremberg trials I found it a most moving experience when I was to send out on my transmitter all the results and verdicts as they came to hand.... the memories of World War II will live with me for ever....

During my time at the London Stock Exchange I met a number of very distinguished visitors, among them, General Freyberg who was introduced to me by the Chairman of the Stock Exchange. He was so pleasant and watched me working the transmitter for some time, saying before he left, 'You must be the most knowledgeable person in London!'

I will just mention that recently I have had contact with Alan Whicker, the well-known television personality who was, incidentally, responsible with others for arresting Mussolini and his mistress as they were trying to escape from Italy. Alan Whicker also worked with the Exchange Telegraph Company, as I did for so many years, but he was a very young man in those days! He afterwards went to work for the BBC.

Mystery signals

I must add that I can still read the Morse code. In 1980-81 I was lying in bed one morning when I clearly heard Morse being sent in code. I was puzzled by it as I had heard it many times in the early morning: I made some enquiries but there was no-one in the neighbourhood who could account for it..... the newspaper "Truth"..... sent a reporter to investigate the matter.

About the same time, quite by chance, I met a man who had worked during the war at Bletchley Park as a mechanic.... He came to see me about the curious incident of the Morse too.... This man reported the matter of the signals I had heard to the branch of the Navy in Dunedin but after that I heard no more. It remains a mystery.

I am now an old lady of 83 and it seems a very long time ago when I worked all through the war and after in the London Stock Exchange with 3,500 men, being the only woman to do so. I have enjoyed writing this account although I have never written a book before.

(From "Looking Back" by Violet Wright, published privately in New Zealand 1983. Extracted and adapted for MM by kind permission.)

Historic Key of 1AW

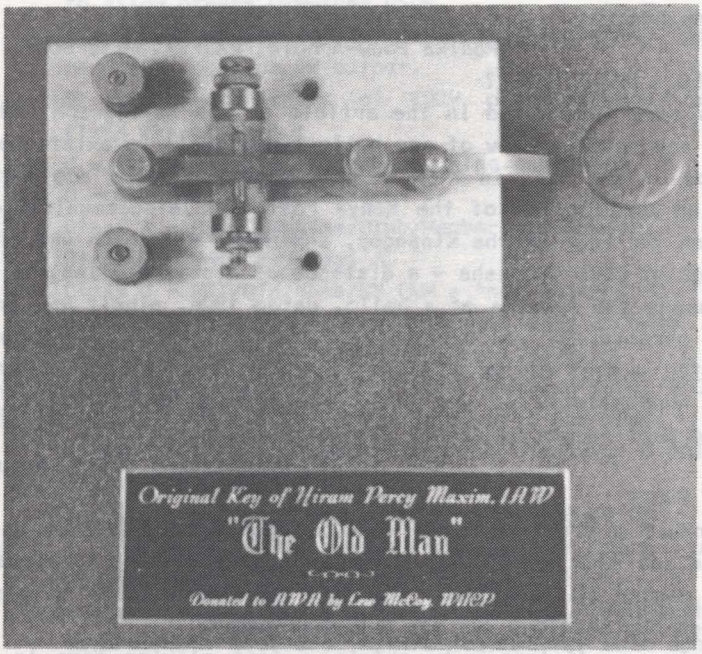
PHOTO COURTESY ARRL

Hiram Percy Maxim, W1AW, has a special place in the history of the American Radio Relay League, which celebrates its 75th anniversary this year, and in the history of amateur radio itself. In 1914, he conceived the idea of a national organisation of amateur radio operators and with Clarence Tuska, its first Secretary, founded ARRL becoming its first President.

After WW1, he led the fight to get amateur radio back on the air in the USA. In 1924 he was a prominent figure in the creation of the International Amateur Radio Union, which elected him its first international President. The headquarters of IARU were located at ARRL HQ and until his death in 1936 he remained President of both organisations, working constantly for the benefit of amateur radio both nationally and internationally.

His call-sign, W1AW, was world-famous and can still be heard as the call of ARRL's headquarters' station located at Newington, Connecticut. He was a keen CW operator and his personal key is now preserved in the Antique Wireless Association's museum at East Bloomfield, N.Y.

This historic key, made by the J.H. Bunnell Company, was used by Maxim when his call was 1AW. Before his death he gave the key to his friend, ARRL historian Roland Bourne, W1ANA, who passed it on to ARRL staff member Lew McCoy, W1ICP who, in turn, presented it to the AWA museum.



This unique key is displayed in a special case at the museum with an engraved plaque, as can be seen in the photograph kindly loaned to MM by the Antique Wireless Association. It is hoped to include more about the AWA museum in a later issue. T.S.

****

YES!

"Happiness is a short over."
(From Groundwave, newsletter of the Wimbledon & District Amateur Radio Society, February 1986.)

From near and far

JUST A FEW MINUTES MORE!

Till now my longest ragchew took 4 hr 15 min with a PCH ham. Afterwards I was only slightly tired by his 20 wpm. Its a great pity that I didn't know Angie's story (MM9, p.16) before, otherwise I would have asked my OM to wait for his supper for ten minutes more to set up a new ragchew record!

Monika Pouw-Arnold, PA3FBF. Mijdrecht, Holland.

ANY HELIO LINKS LEFT?

I was very interested in the article on the Heliograph (MM12), and wonder if any readers know of any helio links still in existence?

I know of one used in this country about 10 years ago between Vic Bennett, an ex-Director of the Kenya Post and Telecommunications, who lived up on the edge of the Kinangop, and Harry Wilkinson who lived down on the edge of Lake Naivasha - a distance of about 15 miles.

I possess the remains of a helio, dated 1905, albeit now used for a different purpose. If you see the film "Out of Africa" you might keep a look-out for a shot of Meryl Streep standing beside Karen Blixen's car (my 1923 Hupmobile!). If you look carefully enough you will see the unsilvered part in the middle of the rear view mirror!

Tim Hutchinson, 5Z4DV. Koru, Kenya.

PLAY IT FAST

I conduct a practice Morse session each Friday evening on 144 MHz for Novice and AOCP candidates, also for anyone wishing to upgrade their speed in regard to reception. The AOCP candidate needs to pass at 10 wpm, though our sessions aim for a higher speed.

I advise my listeners to obtain a fast playing tape in cassette form, say at 15 wpm, and to continually play it in the shack, the home, and in the car. Once their ears are tuned to fast CW they will pass the test quite easily.

Graham Millard, VK6GK. Scarborough, Western Australia.

T9 NOT ALWAYS BEST

A colleague at work is an ex SA Navy and SA Airways wireless operator with extensive CW experience.

He comments that a T9 note is not always a good thing. Apparently one of the SA ground stations (Cape Town I think) had a rasping rough note that could always make it through the QRN. We certainly do have QRN here!

Peter Smith, ZS6FS. Clubview, South Africa.

EUROPEAN CW ASSOCIATION - FRATERNISING CW PARTY 1989

Open to all amateur radio and SWL stations in Europe. All contacts 2 x CW. Stations may be worked (SWLs logged) once on each band on each day.

Dates : 18th and 19th November, 1989.

Frequencies : 3520-3550 (80m), 7010-7030 (40m), 14020-14050kHz (20m)

Schedule : Nov 18, 1500-1700 UTC, 40m and 20m.
1800-2000 UTC, 40m and 80m.

: Nov 19, 0700-0900 UTC, 40m and 80m.
1000-1200 UTC, 40m and 20m.

Call : CQ EUCW - Please keep to the times and frequencies shown to allow others QRM-free QSOs.

Classes : A - Licensed members of EUCW organisations, using more than 10W input or 5W output.

: B - Licensed members of EUCW organisations, using QRP (less than above).

: C - Other licensed amateurs, using any power.

: D - Short-wave listeners.

Exchanges : Class A - RST/QTH/Name/Club/Membership number.

: Class B - Same as class A.

: Class C - RST/QTH/Name/NM (NM = "not a member").

: Class D - To claim points, the exchanges of both stations in QSO must be logged.

EUCW member organisations are : AGCW-DL, BQRP (Benelux QRP), BTC, FISTS, FOC, G-QRP, HCC, HSC, INORC, SCAG, SHSC, TOPS, UFT, and VHSC.

Scoring : Class A, B, C - 1 point with own country, 3 points with other countries.

: Class D - 3 points for each complete logged QSO.

Multipliers : 1 for each EUCW member organisation worked or logged per day and band, for all classes.

Logs : Log must show Date, UTC, Band, Callsign, Information sent, Information received, Points claimed for each contact. A Summary Sheet should show Name, Address, Own call, Score, and Details of rig used, including power used. Signature. Logs should be sent, not later than 20th December 1989, to the Contest Manager:

Guenther Nierbauer DJ2XP, Illingerstr 74,
D-6682 Ottweiler, Fed. Republic of Germany.

Awards : Certificates will be awarded to the first 3 stations in each class.

****

SUPPORT EUCW - SUPPORT CW!

****

KEY & PLUG ASSEMBLY NO. 9.

Dr Alex Vilensky, 4X1MH.

In 1948, when the State of Israel was established it was necessary to equip the Israel Defence Forces quickly with military equipment. The sources of such equipment were often surplus and junk stores. Morse keys were bought for radio-telegraphy mobile and static stations. The most common keys were the "J-37", "J-38", and the British Army's "key and plug assembly, No. 9".

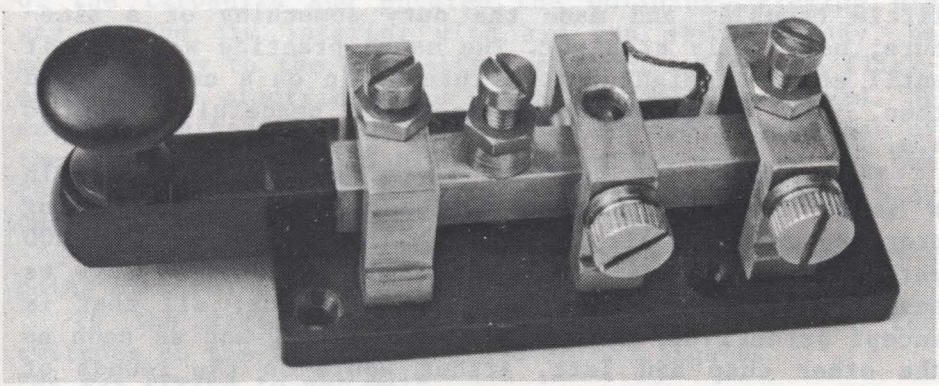
In the early '60s, a new generation of communications equipment was introduced so the old stuff appeared in the local junk shops. I was lucky enough to buy some 30 keys, among them about 20 "No. 9's" in weatherproof metal boxes, complete with thigh harness for mobile operation. The boxes were covered with rust but the keys inside could be cleaned and put back into operation.

I collected 9 different types belonging to the "No. 9" family. The keys have the same overall dimensions, but are of different designs and materials, as follows:

1. Key WT 8 AMP, No. 2. LMK MFG Co. LTD, 1938.
2. J.H. BUNNELL & Co. New York, USA.
3. KEY WT 8 AMP, No. 2 MK III ZA 16929.
4. KEY WT 8 AMP, No. 2 MK II, PT & EW ZA3145.
5. WESTCLOX
6. KEY WT 8 AMP, No. 3 MK I. W.E.R. 1940.
7. KEY WT 8 AMP, No. 2. N.C. Co.
8. KEY WT 8 AMP, No. 2 MK II. A.M.C. ZA 2869.
9. U 1 D.

(Alex Vilensky, 4X1MH, served in the Israel Defence Forces Signal Corps as a Technical Officer (1963-66). He is now Head of Medical Engineering Department, Ramban University Hospital, Israel.)

Key and plug assembly No. 9. Made by LMK MFG CO LTD, 1938. Used by Israel Defence Forces, 1948-1965. Photo: A. Vilensky.



Key and plug assembly No. 9, made by J.H. Bunnell & Co, 1940. Used by Israel Defence Forces, 1948-1965. Photo: A. Vilensky.

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SPEED RECORDS

Regarding "High Speed Hand Sending" (MM11) I have the records of all the Morse tournaments here. So far as I am concerned the record still stands for young James Fisher who, in 1855, sent 55 words per minute with a hand key (a Camelback style with no spring adjustment).

A veteran operator, he was age 18 and the receiving operator was only 15! When P.T. Barnum wanted to use them in his Museum they refused, stating as kids of those days would do, that they wouldn't prostitute their art.

Louise Ramsey Moreau, W2WRE.

There's nowt so queer as folk

Part 2 - Arthur's Dreadful Night!

by LEONARD MOSS, G4VXJ.

One of our functions at Lympne was to man the transmitting station. The old pre-war 500 watt sets gave very little trouble, and made the duty something of a sinecure, especially at night. The usual practice was to wait until about midnight before turning in on a camp bed and then, with a bit of luck, to sleep peacefully until 6 a.m.

The transmitting station, masts, and aerials, were in a large field surrounded by hedgerows. The adjoining property was a poultry farm, with the farm house some 300 yards away. In those far off and more civilised days we never bothered to lock the doors at night; all that is except Arthur. On taking over at 11 p.m., and as soon as the other chap had left, Arthur would do the rounds of the building, securing the doors, turning the place into a veritable Fort Knox, before switching off the lights and "getting down to it".

That summer, the Department decided to change the stand-by Diesel generator which was situated in the end room of the building. The Public Works people who were doing the job decided in turn that the easiest way to get the old machine out, and the new one in, was to remove part of the wall and roof, thus enabling them to use a crane. Having made the necessary holes a large tarpaulin was hung from the roof over the holes to prevent rain getting in until such time as the holes were made good.

Overlooked

One fine night, Arthur came on duty. Immediately, he must have started his "security" checks, but for some reason or other he completely overlooked the fact that the end wall was no longer there, merely a gaping hole

covered by a loosely fastened tarpaulin. Had he realised this, there is no doubt that he would never have "got his head down", and this story would never have been told.

It was a beautiful warm night with almost a full moon. About 2 a.m. the poultry farmer was awakened by piercing screams which seemed to be coming from the direction of the wireless station. "Real death yells they were", he said afterwards. "I thought someone was being murdered."

Hastily pulling on his clothes, and grabbing his shotgun, he hurried over to the station. In the bright moonlight he could see that the place was surrounded by sheep, which must have strayed from a neighbouring field via a gate carelessly left open.

By now the screaming had stopped and, fearful of what he might find, the farmer carefully eased back the edge of the tarpaulin and entered the building. Picking his way in the dim interior with his gun at the ready, he made his way to the transmitter room guided by the flickering of an electric torch which he could see ahead. He entered the transmitter room and as he did so the beam of the torch fell full on him. From the darkness behind the torch a near-hysterical voice yelled "Keep away! Stay away from me! Who are you!"

"It's Robinson from the poultry farm. What the hell's going on here? Let's get the lights on."

In the waving beam of the torch he made out the switches on the wall, and turned on the lights.

"He was trying to get me!"

An amazing sight met his eyes. Arthur was sitting bolt upright on the bed, white as a sheet, his eyes staring, and his mouth trying to form words which would not come. With all the lights on some of his composure was returning and gradually Robinson got the story out of him. It seems that he had been fast asleep when he had been awakened by something brushing across his face.

In the darkness he had reached for his torch on the floor beside him. To his horror instead of the cold metal of the torch his hand had grasped something that was warm and distinctly alive. At the same time the thing, whatever it was, had grunted and breathed hot breath over his face. That was when he started screaming. "He was trying to get me", Arthur told Robinson, "I had hold of his hair. Tight curly hair it was, and he was breathing in my face."

.... NOCTURNAL ADVENTURE...

"You silly b...r", Robinson told him. "It was only the b...y sheep. They must have got past the tarpaulin down the end. Scaring the life out of the wife and me like that, I thought someone was being done in."

"No, they're not here now", Robinson went on, "Your yelling must have scared them off. But they must have been in here for quite a while, just look at the floor." Arthur did so, noting the highly polished linoleum now well sprinkled with the sheep's calling cards. With that, Robinson left, leaving Arthur to clear up the mess as best he could.

That evening in the local pub I heard the story first-hand from Robinson himself. Knowing Arthur, I could visualise (with amusement) the scene. The final straw must have been when his torch picked out the figure of an armed man coming into the room before he realised it was only the farmer.

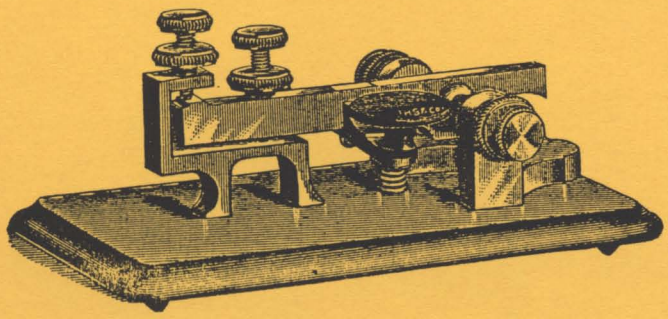
Arthur never told any of the staff about his nocturnal adventure but we all knew about it of course - and even after the passage of more than 40 years I still smile to myself when I think about it.....

J. H. BUNNELL & CO.'S

NEW MECHANICAL

Telegraph Instrument.

(PATENTED APRIL 4, 1882.)



COMBINED KEY AND SOUNDER.

No Battery Required.

Works perfectly as a KEY, with Sound equal to the best SOUNDER.

For MORSE ALPHABET PRACTICE in sending and reading by sound, and for TEACHING THE MORSE ALPHABET. Can be carried in the pocket.

Price, with package of Morse Alphabet Cards, Telegraph Instruction Pamphlet, etc., **$1.50.** Sent anywhere in the United States by mail, prepaid, on receipt of price in Stamps, Money Order, Registered Letter, or Postal Note.

Samuel Finley Breese Morse