Number 89 – March 2004

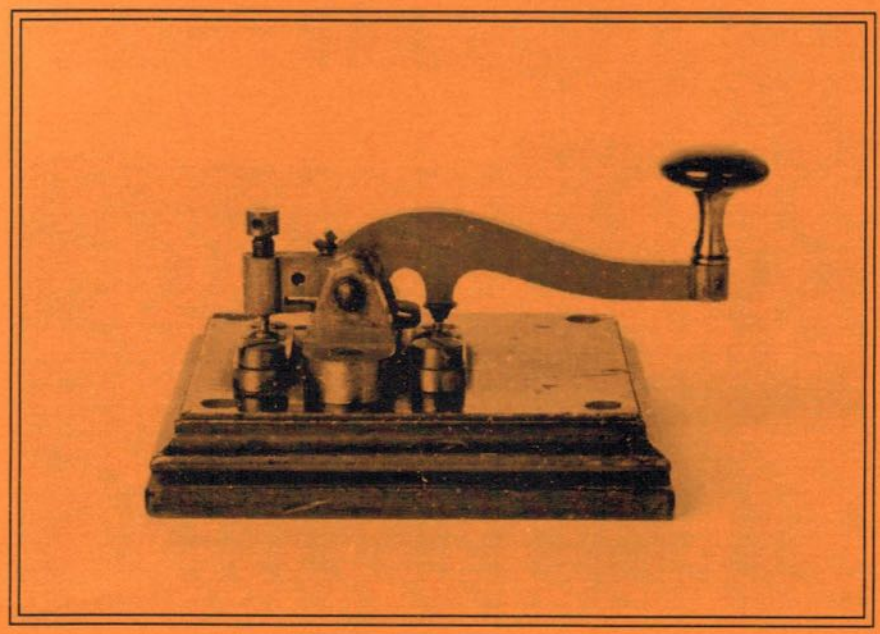
Flying the flag for Morse

Morsum Magnificat

ISSN 0953-6426

£2.75

The Morse Magazine



Early European Camelback Key

The International Journal of Morse Telegraphy

Flying the flag for Morse

Morsum Magnificat

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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.

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 Printed by Hertfordshire Display plc, Ware, Herts

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MM Back Issues

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FRONT COVER

Nineteenth century European camelback key

Photo/Collection: Fons Vanden Berghen, Halle, Belgium

Comment

It is when I came to wind up the magazine that I realised how many people contribute to its success in one way or another. Special thanks to readers who have offered articles, information and photos for publication, without which the magazine would not have been possible. Also thank you very much for the many messages, e-mails and letters of appreciation – it makes it all worthwhile.

Producing MM has been a most interesting, challenging and satisfying experience and, not coming from a publishing background, the support and advice given by Geoff Arnold and Tony Smith, the previous publishers, John Watkins and Glen Jones of Hertfordshire Display plc, our Printer, has been invaluable.

The future of Morsum Magnificat is still not final, but this is the last issue that I will produce, although back issues will continue to be available until stocks run out.

I have made many new friends around the world and hope that we can keep in touch. ***Zyg Nilski, G3OKD*** - - - — - — — - — - - — - -

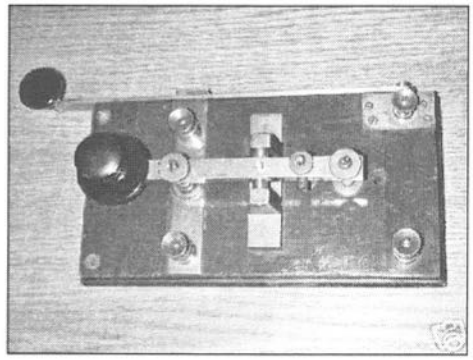
Contents

Adverts

Auction of Marconi Side-lever Key (Titanic-type)

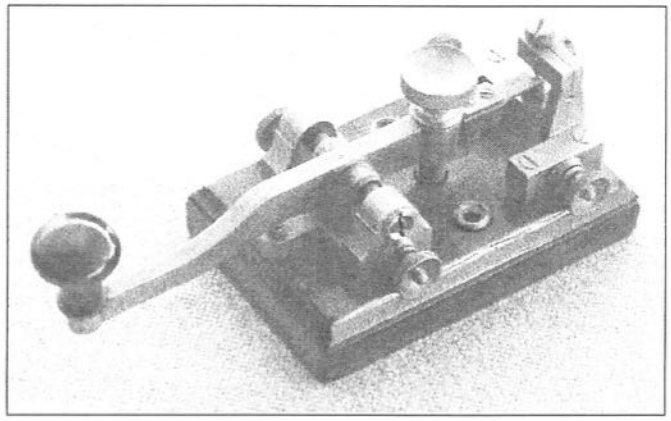
On February 14th, 2004 the auction of a restored Marconi side-lever key closed on 'e-bay', the internet auction house. The price? - $6100 (about £3200 at current exchange rates).

It was described as follows: "This is a large original Titanic type spark key. Made by Marconi's Wireless Telegraph Co Ltd London. (ID plate is missing) This key was made for use without the Gray Magnetic Relay. All original EXCEPT the black knobs and the side lever switch. These and the ID plate were missing when the key was found. The side lever was machined and added for complete look and function. The remark above about Titanic type refers to the time period the key was made and placed in service. The actual Marconi station the key was used in is unknown. All brass hardware on hardwood base measuring 9 inches long by 5 inches wide."



A Key with a History *by Lee Grant, G3XNG*

This is a typical "Scandinavian" key, much copied, like a lot of good things, even as far as the last generation of Admiralty Pattern/NATO keys in the grey boxes that were being sold at rallies until a few years ago at bargain prices! The key was made by Ericsson & Co. Stockholm, circa 1910,and recovered from the wreck of a Norwegian Freighter "Lygenfjord"(built in 1913) which floundered off Cape St. Francis in South Africa in 1938. The key was given to the Shipping Correspondent of the Cape Times Newspaper, George Young /ZS1Y, who is still alive, in his eighties and used by him for over 60 years. He is now in his eighties and he recently passed it on to ZS1WA.



Notes on Sending & Receiving Morse

by E. Geoffrey Walsh
GM4FH (SK)

IN CHAPTER 9 of The Art & Skill of Radio-Telegraphy there is detailed the differences between the American and British methods of keying. In general the American keys were smallish and light to operated. They were on the bench about 18 inches back from the edge so that the forearm could rest on the surface. Keying was by wrist movements.

The British keys were traditionally bigger and were placed at the edge of the bench. There was wrist movement but also some elbow movement.

These motions may, at least sometimes, have been in anti-phase, because of a flail like relationship. Obviously with a heavily constructed key the chair should be further back than with one that is lightly constructed.

The British system of sending it is probably best when the height of the seat should be such that the elbow is flexed to about a right angle.

Some authorities advised about practice with the right and left sides as insurance against problems of "Telegraphists' Cramp", an injury which afflicted numbers of operators.

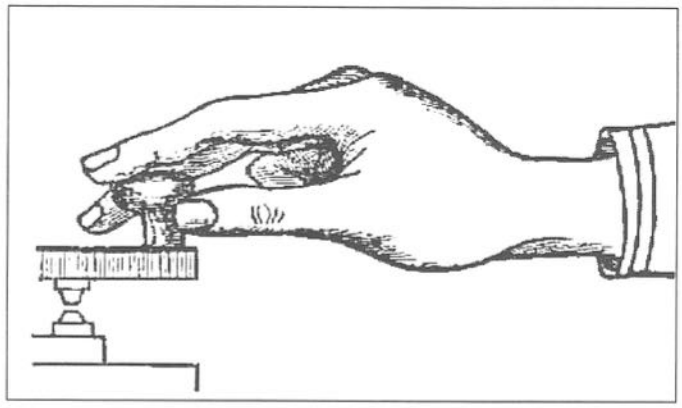
An Anatomical Explanation

In 1884, T. W. Fulton in a medical article on telegraphists' cramp, described the process of sending Morse as follows:

'The manipulation consists in a succession of depressions of the proximal arm against the resistance of the spring. The range of movement of the key varies from about 1/2 to 1/6, or even 1/3 of an inch, and the resistance of the spring varies from two to four ounces. The thumb, index, and middle fingers of the right hand arc applied somewhat loosely to the knob (Figure 1), and are held more or less rigid in a position of flexion and opposition; but they may be varied a little.

"The movement is one of flexion and extension, and takes place chiefly at the wrist, but slightly at the elbow, and in part also at the metacarpo-phalageal joints of the index and medius; these fingers being slightly raised from the knob between each group of contractions which form a letter.

"The muscles called into play in the upward movement are the extensors of the carpus and of the digits; particularly that part of the



common extensor which commands the index and medius, and the special extensor of the index. The extensors of the thumb are also involved. The downward movement is produced by the flexors of the carpus and of the digits, especially those portions of the common flexors which act on the index and radius. And, further, since these fingers and the thumb are maintained in a position of flexion and opposition, there is slight, constant, but variable contraction of the adductor, opponens, and flexores pollicis, of the carpal extensors, and of the flexors of the digits mentioned.

"It is probable that the interossei and lumbricales are also brought into operation. The triceps and the flexors of the fore-arm are also implicated."[1]

Receiving Morse

In the second half of the nineteenth century there was a flurry of activity because telegraphy had become easily the most important way of rapidly transmitting information over distances.

Many connections were made across countries and indeed continents. A telegraphic line that stretched for a long distance was expensive requiring much wire, many poles for supports and maintenance. By comparison the equipment needed at the telegraph offices was fairly cheap. In these circumstances, the speed at which hand Morse was sent was at a premium. Until about the end of that century hand keying was the norm.

Again at the receiving end the speed with which the Morse code could be copied was equally important, it was useless to send signals so rapidly that the operator hearing them cannot copy satisfactorily.

The prowess of the operators depended on the speeds that they could reliably use in sending and receiving. The fastest speeds ever copied are about 75 words a minute, and for this touch-typing, using a 'mill' (typewriter) rather than hand-writing was used.

A person who was to become famous in the art of telegraphy was Walter Chandler. Early in the twentieth century he obtained a post in Atlanta at the Western Union Telegraph Office. He lasted one day and was fired for

lack of skill. His pride was wounded and he wanted to know why after two years of practice he could not hold down a standard commercial job.

I am now inclined to quote a French proverb- ''On apprend en faillant' (One learns by failing).

Chandler took a post on a railroad where the requirements for telegraphers were less demanding (US terminology is 'telegraphers' not 'telegraphists' as used in the UK.) He noticed in the nightly vigils that when half asleep he could copy code much better than when alert. He went into a trance; when skilled operators are following signals at close to the limits everything else if blacked out.

Chandler went on to develop a highly successful correspondence course. It is a truism that 'practice makes perfect' but there must be added a caveat. Practice correctly performed can lead to improvement, but if errors are repeated and bad habits become ingrained, nothing advantageous results.

A world champion Morse code operator, W7JWJ aired his views about the best form of side tone to be used; he strongly recommended that the oscillator should generate sine rather than square waves as the harmonic content is much less and the demands on the ears are reduced[2].

In copying code a skilled man will be four to eight letters behind, what he hears, the signals go into what the psychologists call a 'sort term memory buffer'[3].

Sources

1. Fulton T. W. (1884) Telegraphists' Cramp The Edinburgh Clinical and Pathological Journal 1, (17), 369-375

2. Cafferky, Mike (1991) An Interview with W7JWJ, World Champion Morse Code Operator Radioscan 21-24.

3. Harrison J. W. W4FSE (1939) 25 years of code. Radio News

Morse Matters

by Dr Gary Bold

Making Morse MIDI Files

Several people have contacted me about making computer audio files of Morse. Why would you want to do this? Some reasons: Distributing material for code practice sessions, attaching to emails to excite, interest or irritate other Morse people, or to use as audio introductions to Ham websites. Ideally, clicking on such a file should bring up one of the standard audio players, to play the Morse through your soundcard.

It's relatively straightforward, using a package such as Goldwave, to create a standard Wave (WAV) file from audio Morse generated either externally, input through the soundcard, or from Morse keyboard software such as CWType - if your soundcard supports duplex operation. However, WAV files are very large. With an appropriate plug-in, you can convert WAV to MP3 files, but even these will be relatively large.

The solution is to make a MIDI file, as used for recording music. Instead of storing sampled sound directly, MIDI files store information about how the sound is to be generated in the soundcard. Thus, being "interpreted", they are much smaller.

Rob, KA2BEO distributes "CWMIDI", a PC program that does this. You can download the free version from his website at http://www.natradioco.com/rdey/robsmidi.htm

The operating window is shown in Figure 1. It's a "text to Morse"

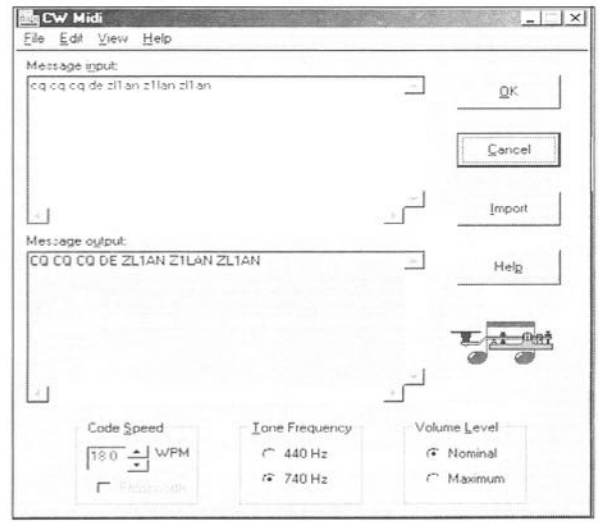


Figure 1.

converter, so you don't even need a Morse key. After opening an output file, the text to be converted is entered in the top box. You can either type it in, cut and paste from another document, or import a text file.

Common pro-signs are supported. The speed is set with the lower right-hand window, and with the Registered version (available for a very reasonable fee), you can even set up Farnsworth Morse, at a (fixed) character speed of 18 wpm. Pressing the "OK" button starts the conversion and generates the MIDI file.

Example: Encoding the sentence "the quick brown fox jumps over the lazy dog" at 5 wpm, Farnsworth, 8 kHz sampling, results in a 90 second WAV file of 1.44 Mb. Squishing this down into a low-quality (16 kB/s, 8 kHz, mono) MP3 file still requires 181 kB. But CWMIDI produces a file of just 1.16 kB!

I've found that the audio sounds quite different on different computers. On my more modern office machine, there's a bell-like ring to the tone. Rob comments "When the program was first written, most sound cards used FM synthesis, which sounded great for Morse when using default instrument 51 for sound. Today's soundcards use wavetable synthesis, and the code sounds rather musical. Setting up the MIDI mapping in Windows can change this, though I'm not certain about doing it in modern operating systems such as Windows 2000, ME, XP etc.

"I recently found a new purpose for CWMIDI. I used the program to create ring tones for my cellphone. Now, I hear 'CQ CQ CQ...' when I get a call! This ringtone is available for download from my WAP site for wireless devices. The URL is available from www.natradioco.com which is my home page."

There's an extensive help file, which includes a nice summary of the MIDI standard, though not the format of a binary MIDI file. However, if you want to change the instrument type or rummage around in it with a HEX editor, it's easy to find the format on the web. Thanks Rob, for making this available!

Morse with MP3 Files

Ron, ZL1AI, writes: "I don't get on the air often, and wanted to brush up my Morse. I also needed a USB drive, so I bought a 128 MB "SuperMax RL-101" with built-in MP3 player from a local computer shop. This will play either WAV or MP3 files. These devices, typically having 32 to 512 MB of flash memory, have become popular for transferring data between computers, or for temporary data storage. They are certainly better than floppies, especially for large files, which exceed the capacity of a single floppy disk.

Playing audio from the USB drive is much more convenient than using a PC or tape recorder.

"The simplest way to get Morse onto the drive is to plug it into a computer, and download the ARRL practice files from their web-site[1]. "The ARRL files are text from QST at speeds of 5, 7.5, 10, 13, 15, 18, 20, 25, 30, 35, and 40 wpm. Each session is around 8 to 12 minutes long, and they change

the text about every two weeks.

"The USB drive/players have multiple 'tracks' that you can put Morse and music on, just like a CD. The Morse files are much smaller than stereo music files, so a 128 MB USB drive will still give you about two hours of high quality music, in addition to all the practice Morse you could possibly want.

And of course you can take your favourite computer program with you when you go visiting.

"I also recorded some other practice material, (short-word recognition lists) by generating the code with your program on an old IBM laptop, (which has the PC speaker sound come out the sound card jack, along with the sound card audio), and wiring that to the sound card input on my desktop PC. I recorded with Goldwave, and converted to MP3 with Lame, and it worked really well.

"So the message is, if you are about to buy a USB drive, consider getting one with an MP3 player built in. You never know, you might decide to give Morse a go. And when you get weary of Morse, you can listen to the music tracks."

I've heard of these ARRL practice files, and downloaded a 20 wpm sample to check out. This was 906 kB long, and played for 7 minutes, 43 seconds. I also have a 512 kB USB "memory stick", which is just a storage device, and it's certainly revolutionised the way I transfer software between computers.

Swapping the Paddle Hand

Chas, ZL3CED, writes: "Recently at work I had to change to operating my computer mouse from my right to my left hand due to impending RSI. My mind told me that it would be impossible, because I had been right handed all my life.

"But after adjusting the mouse settings, within a few days I had it mastered - proving to me that the word can't is a myth!

"Then, looking around my shack, I noticed that I was using my right hand to operate the mouse, the Bencher Iambic paddle, and also to write. My left hand was idle except when used on the keyboard. In fact, it was getting to the point when in busy periods during contests my right-hand RSI started to creep back again.

"I had two options. I could either swap the mouse to the left hand, which I knew could be done, or swap the paddle to the left hand. That word can't raised its ugly head again. My mind said 'There's no way you'll be able to send left-handed CW on the paddle!' But I gave it a try!

After some practice, once again I have buried the word 'can't!' I noticed something weird though. When using the paddle with the right hand the thumb keyed the dot and the finger keyed the dash. When I swapped hands my mind kept telling me that the thumb was again the dot, but in actual fact it was the dash. So I caved in and swapped the terminals on the paddle so that the thumb keyed the dot. This was much better! So now the right hand is free to drive the mouse or write and the left hand is doing the paddling.

"It remains to be seen if I can

drive the PO straight key with the left hand in the next SKN contest. Will soon see! "

I've also spasmodically tried sending left-handed with the paddle, but never stuck at it long enough to become proficient. I also noticed that the thumb really wants to send the dits, regardless of which hand it's on. The thumbs clearly know about each other.

The K1EL Keyer Chips

Steve[2] who makes these excellent products, writes "I have decided to stop offering the parts kit for the K9 and K10 chips. Keyers have continued to evolve here in the States and there are keyers that are better and cheaper than my Kchips.

The NorCal QRP club[3] is offering a full kit with chip and parts for $18 (US) for DX orders. Looks very good. 73, Steve."

This NorCal keyer offers programmable memories, speed control by either pot or paddle, beacon mode, as well as the now standard paddle polarity swap, iambic A or B modes, optional sidetone and autospace. I've never tried one. If you have, and want to write a review, we'd be delighted to receive it. However, I still feel that Steve's K9 chip in particular for $8 (US) is a real winner. Using only 5 components besides the microprocessor chip (the NorCal keyer uses 12 excluding the regulator section) it's so simple to wire up that you hardly need a PCB. It's also very simple to operate.

Steve has other products too, and it's worth checking out his website[2].

People are still re-discovering and publishing keyer circuits using 555 timers, ip-ops, relays or analogue circuitry. Please don't keep sending these to me, and don't build one unless you're a vintage keyer enthusiast. The microprocessor units are cheaper, simpler and better.

Teaching Morse

Ken, VE6AFO writes: "I'm writing to tell readers my experiences with Gary's freeware Morse teaching program.

"My background: I reside in Calgary, Alberta, Canada and have been licensed since 1961 at age 15. Amateur radio is a central part of my life, and I've always sought opportunities to return something to it. One of my activities is the instruction and administering of Morse code and theory exams under the authority of Industry Canada - the regulatory body that governs our Amateur Radio affairs. I have been an Accredited Examiner since 1990 when the program first began.

"I am always searching for better ways to teach Morse code and tried several of the many hundreds of Morse code teaching programs available. I learned of Gary's freeware software on the NZART web site, and was immediately impressed. Most importantly, it was very user friendly. There were no overwhelming bells and whistles to deal with and the tutoring features were excellent.

"This brings me to why I am writing this note. Around the time our Morse code requirement was reduced from 12 wpm to 5 wpm, I discovered an

interesting anomaly. I was instructing students at the slower speed using a Farnsworth speed of 13 wpm.

"A common complaint from students was that they `couldn't decipher characters'. That was when I realized that they were trying to decipher each dot and dash rather than hearing and learning the distinct sound of each character. In other words, for them the Farnsworth speed of 12 or 13 wpm appeared to be an apparent hindrance. Decreasing the character speed made it initially easier for them. Of course this is an obvious step backwards from the correct way of learning using 13 wpm Farnsworth Morse, which makes it much easier to increase speed later.

However I was willing to change if it meant my students could pass the 5 wpm requirement as a result.

"I contacted Gary and told him of my findings. His teaching program defaults to Farnsworth 14 wpm and is only adjustable down to 12 wpm. I asked Gary if he could modify the program to allow the Farnsworth speed to go below this. To my surprise he did so, producing a customized version just for me - although he did express great reservations.

"I've now used this program for almost a year. I have students who have successfully passed the required 5 wpm using it, whereas previously they experienced difficulty. I found most preferred Farnsworth speeds of only 6 to 8 wpm when learning to copy Morse code at 5 wpm.

"Gary's program also allows me to prepare text for administering the test with the ability to change the tone, (another common complaint from my students with previous programs), the code speed and Farnsworth speed. I now use this customized version exclusively for administering the code test and have abandoned audiotapes for good! Isn't technology wonderful?

"My conclusion. Since only 5 wpm is now required for the Amateur Radio Licence, I am prepared to teach candidates to only this level. Most of them, at least here, have no incentive to learn Morse code in a manner which will ease the transition to faster speeds."
"Gary, my thanks for producing this during the time when you were injured and were convalescing from your automobile accident. While all this was happening you had the modified program to me within a week!"

Ken, thanks for the nice words. However, after my accident I couldn't drive, couldn't walk much, and had to stay home while my body figured out how to fix itself. Pottering at the computer was about the only thing I could do. Your experiment gives food for thought. I'd like to think that candidates would like to advance their Morse copying speed by learning with Farnsworth, but maybe I'm a fossil. Ah me. Times change.

Another CW Filter

Most serious CW ops use some sort of filter to limit the audio bandwidth to make copying easier. In the early days, low-fidelity equipment helped. Jumbo, ZL1HV, writes: "When telegraphy was king - say until the end of WW2 - operators wore headphones designed

for the purpose. I have an idea that the diaphragms had a resonance of around 1000 Hz and the operators of those days adapted their hearing to suit. It is only in more recent times that "hi-fi" 'phones and speakers have come into use and it has been possible to change the note.

"I still use head-phones for CW reception - they focus concentration on the signal." Indeed, 1000 Hz was the frequency used in the enormously popular US code-reading contests of the 1930's, which would indicate that the contestants were used to it. These days, audio passband limiting is increasingly being done with digital, DSP circuits which give far superior passband shapes, and also allow the centre-frequency to be varied. I was recently asked, "The do-it-yourself DSP filters I find on the web are far too complicated. Is there a very simple analogue circuit for a band-pass CW filter, which also allows the centre-frequency to be changed?"

Indeed there is. N1HFX gives a band-pass circuit on his web-page which requires just one LM741 op-amp and a 386 Audio amplifier chip. He describes this as a "variable bandwidth" filter, but this is not quite correct. The circuit used, technically an "Infinite Gain Multiple Feedback" (IGMF) configuration, has a single potentiometer which increases the filter Q, and the centre-frequency at the same time, so that the bandwidth remains approximately constant[4].

The frequency variation is more apparent to the ear than the "selectivity-sharpening" effect, so I prefer to describe it as a "variable frequency" filter. See N1HFX's website[5] for the

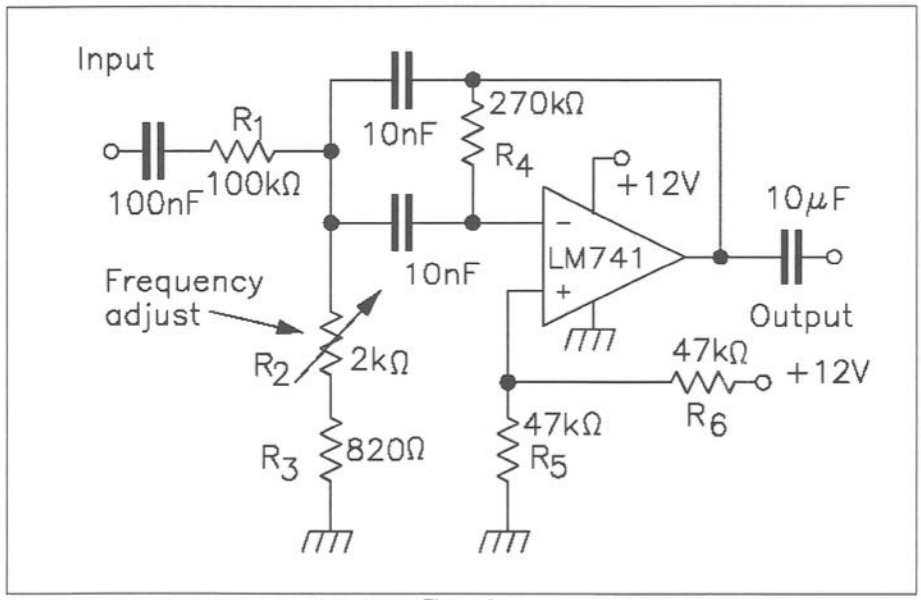


Figure 2.

complete circuit. Figure 2 shows the first, filter stage, with some component values changed (by me) to optimise the frequency range.

You'll see that it is simple. It would be an excellent club constructional project for beginners, which would also be useful for them. Although it has only a two-pole (resonant-circuit-like) transfer characteristic and lacks the steep skirts of more complex filters, it's good enough to make a perceptible difference. Some of the early headphones that Jumbo mentions may have sounded like this.

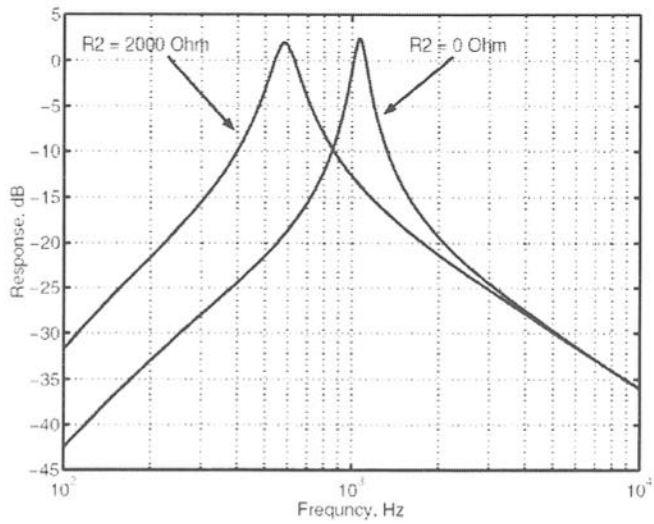


Figure 3.

Although I've used this configuration before, I haven't had time to construct it with these component values, so I ran SPICE simulations to measure its performance. Figure 3 shows the filter response for extreme values of R2, the bandwidth control. The highest and lowest centre frequencies are 585 Hz and 1060 Hz respectively. The 3 dB bandwidth remains constant at about 180 Hz, and the gain at about 2 dB. The higher frequency peak appears narrower because of the logarithmic frequency scale. The 386 audio amplifier chip in N1HFX's version boosts the output by a further factor of 20 to drive phones or a small speaker. Any generic operational amplifier could replace the LM741, and the supply voltage is not critical. If you build it, let us know what you think?

Morse-reading Program

Ron, ZL1TW, alerted me to a program which Grant, WD6CNF has been developing for about 4 years. It's called "CWdecoderXP" and Figure 4 shows the operating window of the latest current version. Audio input is applied to the mike socket of the soundcard.

No interface is necessary. The top window is a spectral display of the audio passband. The peak shows a CW signal which I've locked onto by setting the vertical line with the mouse. The resulting decoded text is displayed in the middle window.

The signal is part of a QSO I recorded on cassette tape some while back on 80 meters, on a medium-noisy night. I use this recording as a

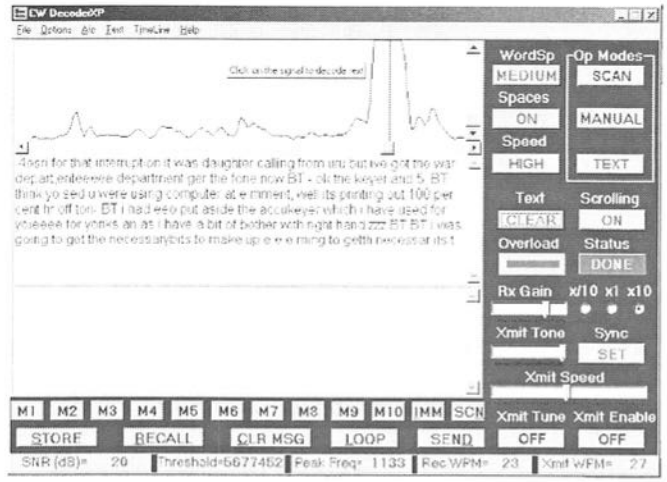


Figure 4.

repeatable standard for comparing the performance of different Morse decoders. You can see that the text is not perfect - partly because the sending op was making occasional errors, and partly because of the QRN and QSB. However, it is just as good as the decoded text from Sergei's "CWget", which so far has beaten off all the opposition here.

This surprised and impressed me. There is a somewhat daunting array of controls, which you have to read the (excellent) help files to fully understand, but I hadn't touched them, and this is what it did "straight out of the box".

One of the greatest enemies of Morse-reading programs is QSB. Because the human ear has excellent AGC we're usually unaware just how much the incoming signal is fading up and down compared to the noise, and all good software has some algorithm which attempts to automatically compensate for this. Grant's algorithm is particularly impressive, resulting in decoding performance which is almost independent of input level - all compensation is done by the code and sound-card.

In fact, Grant supplies four different level-compensation algorithm settings, optimised for different conditions, as well an optional "time-line" display (not shown) which scrolls from the right showing the raw input signal, the changing detection threshold, and the resulting logic signal sent to the actual Morse decoding algorithm. It's fascinating to watch this work!

Other features include automatic speed tracking, selectable settings which attempt to compensate for spacing peculiarities, optional AFC (automatic signal frequency following) and an ability to transmit one of 10 message memories or text typed into the bottom window. Grant is keen to see what users think of his software. I have no space for a full review here, so we'll review it together. Grant has kindly allowed me to post the latest version to my website page[6], where all the latest versions of my Ham software are collected as well.

Download it and check it out, and send me comments[7].

Johnny Cash, CW Ham

Many people, famous in other fields, have been keen Radio Hams as well. John Krause, a towering figure in Electrical Engineering, who wrote the definitive text on antenna theory, Bill Eitel, founder of Eimac tubes (and founder of the five star club of over-80 wpm CW operators), Owen Garriot, Tony England (astronauts), King Hussein of Jordan, Walter Cronkite (TV personality), Chet Atkins (guitarist), Paul Tibbetts (captained the plane which dropped the first A-bomb) come to mind.

I didn't know about the famous singer below, however. His story was sent to me by Nigel, ZL2DF. It was posted on the Elecraft reflector by Colin, N0YGY. Colin relates: "Saturday afternoon I was listening in the 3-meter band to WUMB UMass Boston radio, 91.9 MHz, when they had on an old interview with the late Johnny Cash. He was asked how he got started in his career, and a great CW story emerged.

"Cash was born on a small cotton farm in NE Arkansas. They were very poor, and the whole family worked the fields together. Their only enjoyment was they did have a radio. When they came in from the fields, they could listen to Ernest Tubb, the Carter Family, Gene Autry and so on. Johnny had a great singing voice, but the family was too poor to afford a guitar so he just sang. His ambition for life was to sing on the radio.

"In 1950, he enlisted in the Air Force. Aptitude tests showed he had great capability for Morse Code, probably due to his musical mind set he thinks. He went to the usual AF places like Lackland and Keesler, graduating first in his class in CW. Then they selected him for high speed intercept operator and he aced that class. Then they sent him to learn Russian language and Russian code. He was doing 35 WPM in Russian. On graduation first in his class, he was offered either Adak Island Alaska or Germany. Cash didn't know anything about Adak except that it was hundreds of miles from nowhere, but he had heard that Germany was a good place, so he went there.

"After a few years, he made rank and became chief of the station. Meanwhile, in his off time, he finally had enough money to buy himself a guitar, which he instantly learned to play. The Air Force offered him good assignments and bennies to re-enlist, but he always just wanted to sing on the radio. The rest is history."

The Batteries of Telegraphy

Morse telegraphy could not develop until the invention of the chemical cell by Allesendro Volta in 1800. This was merely two disks of zinc and silver separated by cardboard soaked in seawater. Volta went further and constructed a voltaic pile of such cells in series. These days, we'd call this a battery, and each cell would have had a potential of about 1.5 Volt This invention was of immense significance, as it enabled the sustained production of electric current for the first time. The unit of electrical potential was later named in Volta's honour.

Last year, I gave my standard demonstration of Morse telegraphy to a University Electro- magnetism class, using a sounder, gel-cell and genuine land-line telegraph key. Afterwards, a student approached me and said that he'd heard that the first batteries were introduced to earthmen by extra-terrestrials, and given to the Babylonians by spacemen in UFOs 2000 years ago. The Babylonians then used them for electroplating and shock therapy. Working models were in a museum in Baghdad. Was this correct? It sounds loopy, but read on.

The Baghdad Battery

He was referring to the curious "Baghdad battery", which is described (with varying degrees of scientific verisimilitude) on many websites. The facts seem to be these: In 1938, the German archaeologist Wilhelm Konig discovered a small (15 cm high) brightly painted clay jar, which had come from 2000 year old ruins at Khujut Rabu, just outside Baghdad. It's unclear whether Konig excavated this himself, or whether he came across it in the museum archives. Vertically suspended inside the jar was a hollow cylinder of sheet copper 13 cm long and 4 cm in diameter. Suspended inside this again, but not touching, was a smaller diameter iron rod. These components were held in place by bitumen seals. The rod "showed evidence of having been corroded with an acidic agent", presumably from some liquid which had filled the jar.

Most sources date it as belonging to the Parthian period, from about 250 BC to 200 AD. The Parthians were a warrior race, but not renowned otherwise for any scientific achievements.

Konig immediately decided that this artefact could only be an electrical battery (strictly speaking, a cell), since two different metals separated by an electrolyte are all that you need. He published a paper describing it (which I have not seen) in 1940. Naturally, this was a most controversial assertion, and some over- excited people immediately began to make the extra- terrestrial speculations referred to by the student above. But apparently, the scientific community at the time largely dismissed this claim as being too preposterous to be true.

Nevertheless, the artefact exists, and some sources claim that there are others like it in the same museum. After World War II, Willard Gray of the American GE High Voltage Laboratory built reproductions. When filled with a grape-juice electrolyte, these produced an open-circuit voltage of "about half a volt". Other scientists did likewise, and claimed voltages up to 2 volt using electrolytes such as vinegar and wines. In the late seventies, Dr Arne Eggebrecht connected many such replicas in series, and claimed to have succeeded in electroplating a metal with a thin layer of silver. It's suggested by some that this may have been the battery's primary use, since gilding was a common decorative process at the time.

Other suggestions were medicinal: The ancient Greeks wrote of the pain-killing effect of electric

fish when applied to the soles of the feet (!) Could several such series-connected cells have been non-biological substitutes? Others suggest Priests may have electrified idols, to give those touching a small shock, emphasizing the power of the God. However, no "wires" or metallic connecting structures have ever been found.

The Baghdad battery continues to be an enigma. If it was a cell, it's unique, because no similar artefacts have been found associated with any other ancient civilisation, and knowledge of the technology was lost for 2000 years. To see more, search with Google on Baghdad battery. You'll find many hits, and some photographs and cutaway drawings. It has perplexed many people.

I'll discuss some other famous batteries used in telegraphy in future columns.

References

1. The ARRL web-site for Morse files is http://www.arrl.org/w1aw/Morse.html
2. Steve's chips: http://k1el.tripod.com/products.html
3. NorCal Keyer kit: http://www.amqrp.org/kits/NCKeyer/index.html
4. "Theoretical and Computer Analysis of Systems and Networks", Gary E.J. Bold and S.M.
5. The N1HFX "simple filter" website is http://www.rason.org/Projects/cwfilter/cwfilter.htm
6. Grant's CW decoder is at http://www.phy.auckland.ac.nz/Staff/geb/loads.htm
7. My email address is Morseman@nzart.org.nz

(Adapted and edited for MM from Gary Bold's *The Morseman* columnin *Break In*, the journal of NZART)

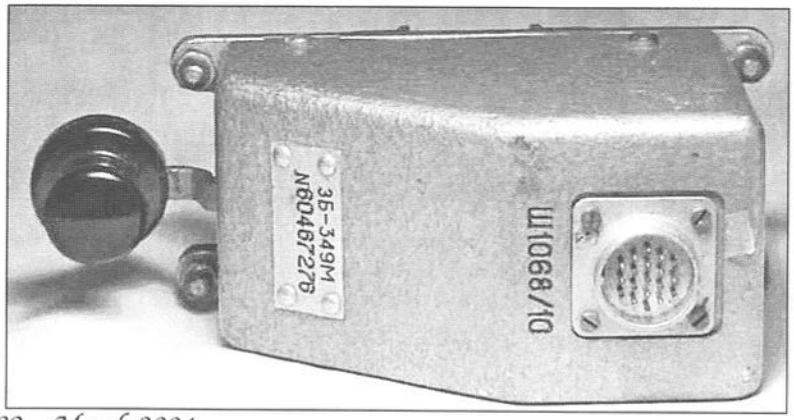
Russian Cosmonaut Key

by Apostilos Bourousis,SV1EDY

The Soyuz 13 space launch took place on Decemer 18th, 1973 with two crew members. The orbital module was dominated by the large Orion 2 astrophysical camera. The crew conducted astrophysical observations of stars in the ultraviolet range.

Additional experiments included spectrozonal photography of specific areas of the earth's surface, and continued testing of space craft's on-board systems. It was recovered on December 26th, 1973 when it landed in a snowstorm 200 km south west of Karaganda.

Valentin Lebedev, one of the crew is seen in the photograph in an opertating position which included the Morse key in my collection. The only difference is that my version has a connector mounted on top of the case.



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Radio & Radio Operators by Birgitta Gustafsson

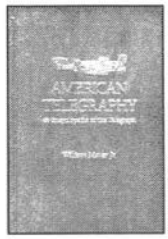
This is a hardback book in Swedish with a companion English translation of the text, either in book form or on CD (needs Microsoft Word). It traces the history of radio and radio operators illustrated with 250 photographs and diagrams. 256 pages. See book review in MM87, page 20.

Book & CD: £20.00 UK & Europe - £24.00 Rest of World
Book & Book Translation: £25.00 UK & Europe - £32.00 - World

The Story of the Key by Louise Ramsey Moreau

This is The Best of MM Vol. 1. It is a reprint of a series of articles which appeared in *MM6 - MM11*. It covers the history of the telegraph key from 1837 - 1941 and includes a list of American telegraph instrument makers, 1837-1900. Softcover 77 photos/illustrations, 60 pages, 5¾ x 8¼ inches (14.5 x 21 cm).

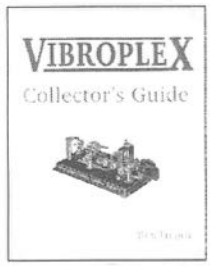
£4.25 UK - £4.50 EU - £5.00 World



American Telegraphy & Encyclopedia of the Telegraph by William Maver Jr.

Facsimile by Lindsay Publications of the 700 page illustrated 1912 encyclopedia (5th Edition) but carries copyrights that go back to 1892. This is a classic encyclopedia of telegraphy with 544 illustrations of equipment, circuits, procedures and installation methods. A must have for collectors & historians. 6 x 9in (15.5 x 23.5 cm). Gold-blocked hardcover.

£39.00 UK - £40.00 EU - £43.50 World



Vibroplex Collector's Guide by Tom French

This classic work on Vibroplex bug keys and their history is back in print. It covers all the models from the 1902 "Autoplex" to the present day and includes original design information and drawings, copies of patents, nameplates, serial numbers and decals. The book is rich in drawings and photographs. Softcover, 126 pages, 8½ x 10¾ ins (21.5 x 27.5 cm).

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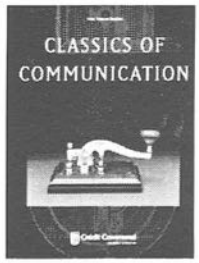

Classics of Communication (English Edition) by Fons Vanden Berghen

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).

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My Road to Bletchley Park *by Doreen Spencer*

This is a personal account of Doreen Spencer who was a WAAF Wireless Operator at Bletchley Park during WWII. Her duties included reading 'Morse Slip'; paper tape with marks to represent dots and dashes which moved across a special typewriter and from which the Morse was typed into text. Soft cover, 45 pages with 12 drawings and photographs -128 pages, 15 cms x 21 cms (5.75 in x 8 in).

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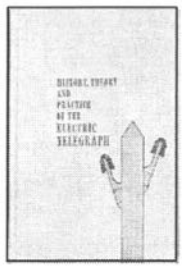

History, Theory & Practice of the Electric Telegraph by George B. Prescott

This is a facsimile reprint of 1866 edition. Reproduced in 1973, there are minor storage discolourations on the hardback cover. 516 pages, 119 illustrations, 5¼ x 7¾ in.

£14.50 UK - £15.50 EU - £17.50 World

Railroad Telegrapher's Handbook by Tom French - 2 left

Old-time telegraphy on the American railroads. It covers all of those subjects the operator had to know, and the duties he performed. Softback, 60 pages, 30 illustrations, 6¾ x 8½ in.

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BARGAIN - there are 2 copies of the FIRST edition of Perera's Telegraph Collector's Guide by Tom Perera
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A Hero at the Telegraph

A Reminiscence of the Indian Mutiny

From *Young England* Annual, 1909, an Illustrated Magazine for Boys. Contributed by David Prout, G8FEX.

The courage of a soldier can be exhibited in other places than the battlefield, as we all know, or ought to know. Few soldiers have stuck to their post of duty in a better spirit than the young telegraphist in the following story.

He died not long ago, an old man, in Calcutta, with the grand recollection that he had performed a deed which contributed greatly to save the Indian Empire in the stressful days of the Mutiny.

Line interrupted

At that time (1857) he was a mere lad, employed as an assistant in the telegraph service. His name was W. Brendish, and he sent, at the risk of his life, a despatch from Delhi to Umballa, which bore the first news of the outbreak.

This message, forthwith repeated in every town which could be reached, proved of priceless value. Colonel Edward Vibart, in his *Sepoy Mutiny*, tells the story of how, to quote the Judicial Commissioner of the Punjab, 'the electric telegraph saved India'.

It was the custom to close the telegraph offices on Sunday between the hours of nine and four. On 10th May, 1857, as the operator at Delhi was about to close his station, he received a message from the Meerut office announcing an uprising in that section. At four o'clock, when the office was re-opened, connections with Meerut were found to be interrupted.

Presumed murdered

The telegraph force at Delhi consisted of the chief and two young assistants, Brendish and Pilkington. The office was situated outside of the city, about a mile from the gates.

On discovering the break in the connections, the chief sent the two lads to test the cable across the river. They found they could signal to Delhi, but not to Meerut, and reported the fact on their return. It was too late to do anything that night, but the next morning Mr Todd, the chief, went out himself to investigate the line. He never returned, and although his fate is unknown, there is little doubt that he was murdered.

The office was thus left in charge of the two lads. Signs of trouble began to be evident close at hand. Brendish, stepping from the door, met a wounded officer, who cried out to him, 'For God's

sake, get inside and close your doors!'

Saved the Punjab

The revolt crept closer and closer. The boys felt that their lives were in danger; soon they became sure of it. But before they fled to a place of comparative safety they waited to send out to the Indian world the news of the revolt.

Brendish ticked out the message which leads Sir Edward to say:
'Look at the courage and sense of that little boy! With shot falling all round him, he stayed to manipulate the message that was the means of saving the Punjab.'

It is satisfactory to know that the Government rewarded Brendish for his services by giving him a life pension.

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Learning Q Codes (Submitted by Lee Grant)

P/O Prune went into town
Of Beer he had his fill
So when they asked him QBA ?
He sadly answered "Nil"

His comrades sat him at the bar;
"Now QAH" they said,
But ere he got a QFE,
He climbed a bit instead.

He stood and shouted "QGV
And QTH precarious",
Then QFO'd upon the floor,
His language mixed and various

Oh QFR" Prune said,
I guess! QGH'd too fast.
Control - I'm in a ruddy mess!
A QGX please! Blast !"

He then turned to the barmaid
Saying "QDR, my Dear?"
She answered rather snappily
That "QFT's right here I"

The QTR is "time" at last,
So QAA at mess?
"You seem to me, Prune, almost tight:
So QAK unless"

"You wish to QAI in jug
And be a most peculiar mug.
So set your QDM for home;
Allow for drift and do not roam

From Tee Emm Sept 1941, an official RAF publication that was full of useful, interesting,amusing anecdotes, comments and reminders.

Q Code Reminder

QUESTION / INFORMATION

QAA - What is your estimated time of arrival / My ETA is...
QAH - What is your height? / My height is..
QAI - What is the essential air traffic? / The essential air traffic is..
QAK - Is there any risk of collision? / There is a risk of collision...
QBA - What is the horizontal visibility at...? / The horizontal visibility is...
QDM - Will you indicate the magnetic heading..? / The magnetic heading is...
QDR - What is my magnetic bearing? / Your magnetic bearing is...
QFE - At (place) what is atmospheric pressure? / The atmospheric pressure is...
QFO - May I land immediately? / You may land immediately.
QFT - Has ice been observed at (height/place)? / Ice observed at...
QGV - Can you see me? / I see you at...
QGX - May I land using...(type of approach)? / I will land using...(approach)
QTH - What is your position? / My position is...
QTR - What is the correct time? / The correct time is...

Australian Telegraph Keys and Instruments

by Ron McMullen

THE FIRST TELEGRAPH LINE in Australia was opened in 1854 between Melbourne and Williamstown, Victoria. The telegraph quickly spread to all states and prior to Federation in 1901 each state was responsible for its own telegraph system and equipment was obtained from overseas countries, mainly England and the United States. Hence the variety of equipment now found.

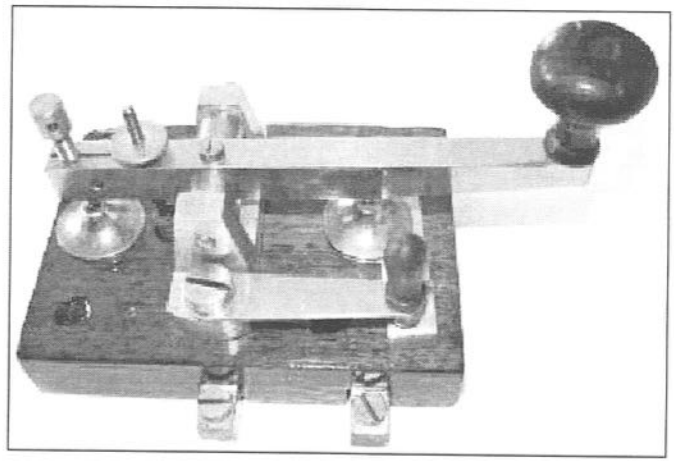
After Federation the Commonwealth Government took over responsibility for Postal and Telegraph services and much of the equipment was obtained locally. Indeed a lot was made in the Postmaster-General's Department's workshops.

Morse code and the telegraph continued as the main means of communication until it was phased out during the 1960's with the last telegram being sent by Morse between Roebourne and Wittenoon Gorge, Western Australia in 1968.

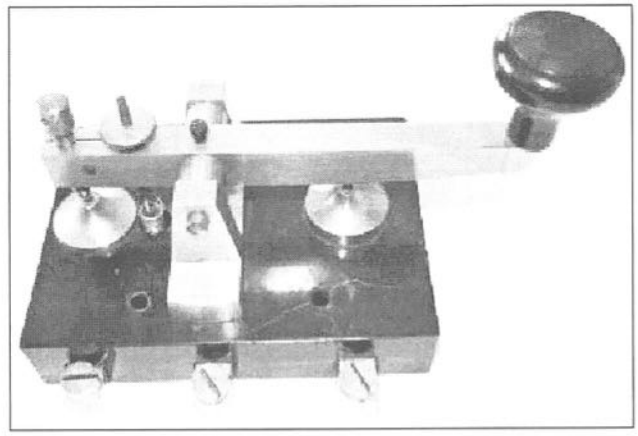
PMG Department

Pride of place in Australian keys must go to the well-known 'PMG' (Postmaster-General's Department) key.

This was originally made of all brass fittings, gutta-percha knobs and a wooden base. In the 1930s the wooden base and knob were replaced with Bakelite and the fittings made of steel. Both came in a 2 terminal model, with circuit closers for closed circuit working and 3 terminal models, without circuit closers for open circuit working. They were particularly well made and



PMG 2 terminal brass wooden key



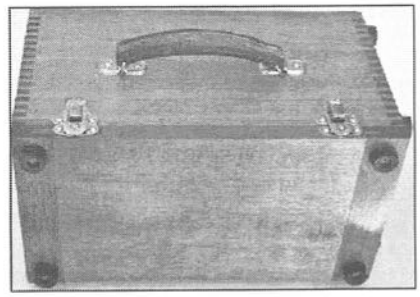
PMG 3 terminal steel Bakelite key

Postal Workshops modified WT8AMP key

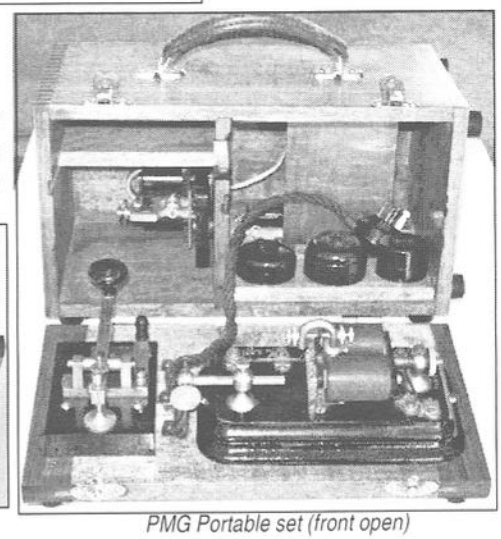
could take plenty of 'pounding'.

After the second World War the Postal Workshops Melbourne converted WT8AMP keys by mounting the key on the standard sized PMG bakelite base, replacing the arm with a longer one, and adding a circuit closer. The Department also made its own relays, sounders, resonator boxes, line switches, switchboards and other testing equipment.

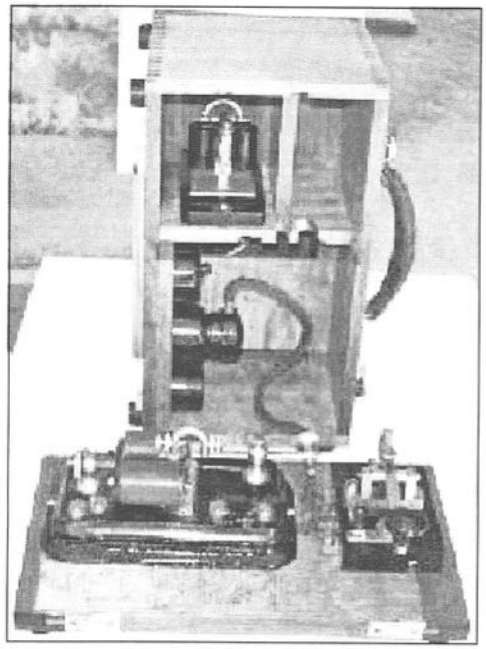
The PMG Department made a portable telegraph set for use at sporting events and locations where temporary facilities were required. It was a very well constructed dovetailed wooden box containing normal issue key, sounder and relay.

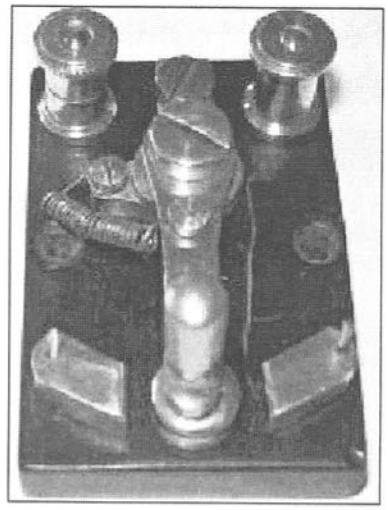


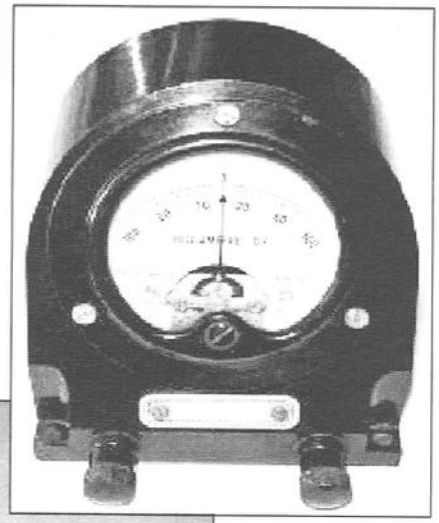
PMG Portable set (closed box)



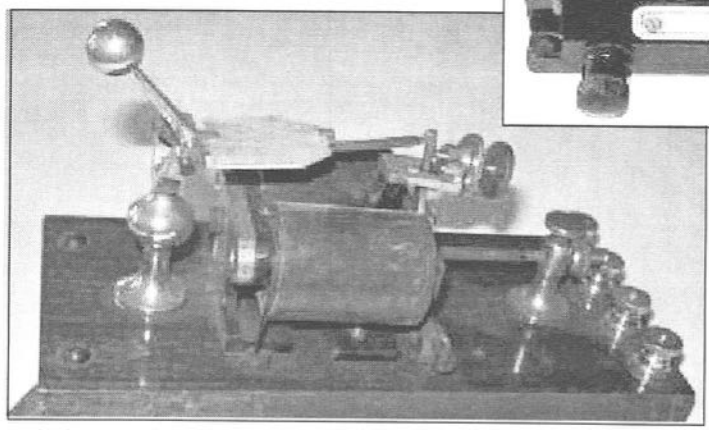
PMG Portable set (front open)





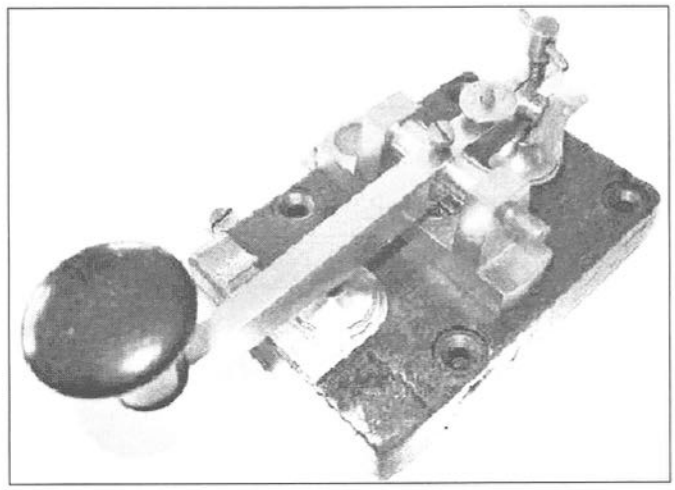


Top-left. PMG Portable set (ready for use).
Top-right. Early PMG switch.
Right. PMG Milliamp meter.
Bottom. Drop indicator.



New South Wales Railways

The New South Wales Government Railways made their own keys at their Eveleigh Workshops, Sydney. They were almost an exact copy of the PMG straight key with the exceptions that the backstop adjustment screw carried a cross bar and the side screw to tighten the back stop adjustment screw was of the 'butterfly' type. They were made with circuit closers and some minus the circuit closer with a plastic plug in place of the securing bolt. Sydney Tramways also used Morse code and as they were State Government owned perhaps railway keys were used there.



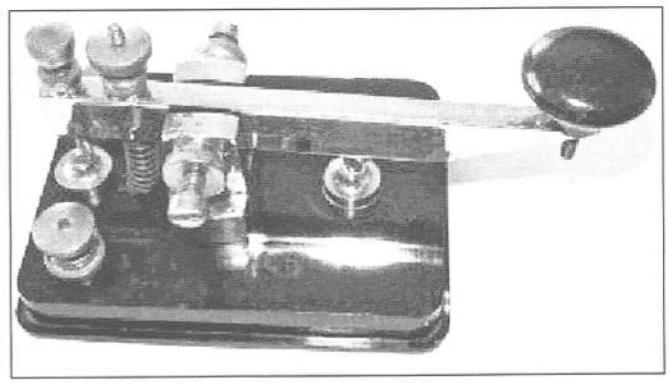
NSWGR brass wooden key without circuit closer

Levenson

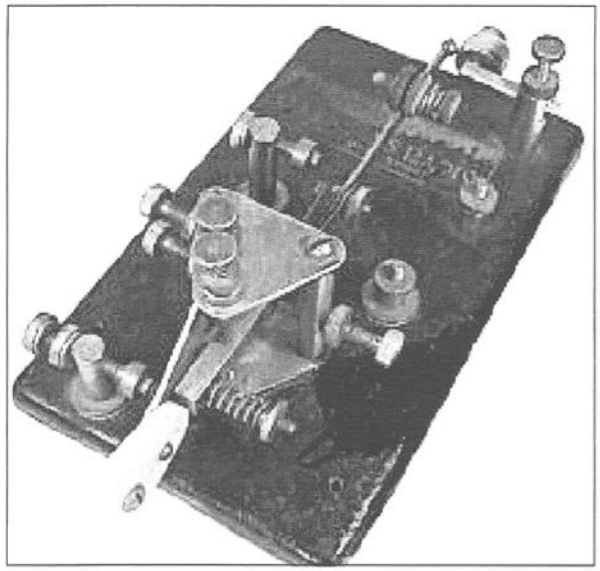
Levenson's was a well-known Radio Shop located at 226 Pitt Street Sydney up to the 1950's. They manufactured a range of 'Like-A-Flash' Morse code keys and sets. They made three basic straight keys - the No.1 with long or short arms and plated fittings mounted on a bakelite moulded base, 3¾" x 2¾" x ½" and in 1941 priced at 12/6.

Their No.2 key was described as a "PMG type" with plated fittings mounted on a wooden base, 4¾" x 3" x 15/16" and priced at 19s-6d. These keys would not have been used by the PMG Department.

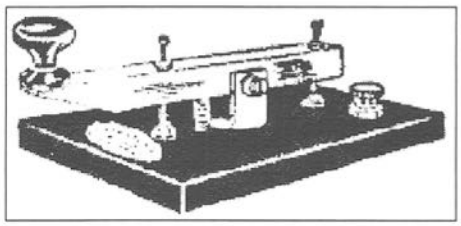
The third key was described as a "Junior De Luxe" key with chromed fittings on a wooden



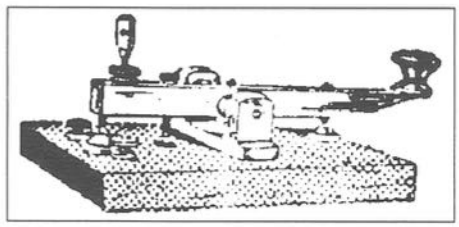
Levenson No.1 key - steel Bakelite



Left. Levenson semi-automatic key



Levenson No IA De Luxe key



Levenson No.2 key

base and again in 1941 priced at 7/11.

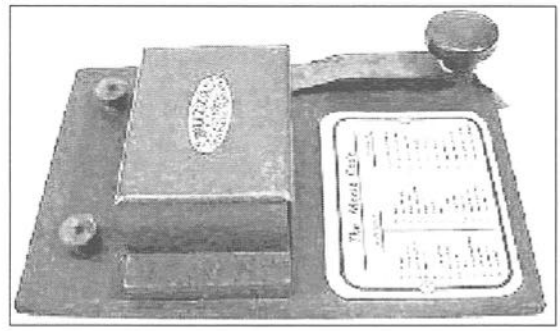
Levenson's also produced a "PMG" type sounder priced at 35/-. All keys were marketed in a variety of combinations with buzzers, sounders, oscillators, lamps, batteries etc.

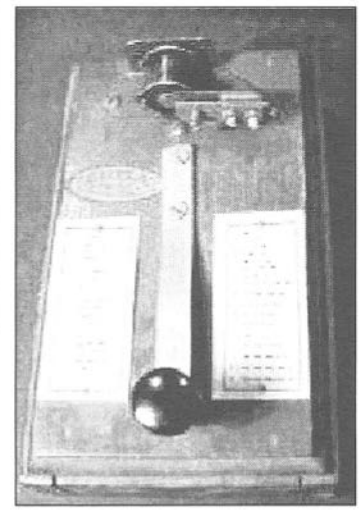
During World War 2, Levenson's made a semi automatic 'jigger' very similar to and based on the Vibroplex J36, no doubt under licence to Vibroplex for use by allied forces during the Pacific war.

Buzza Products

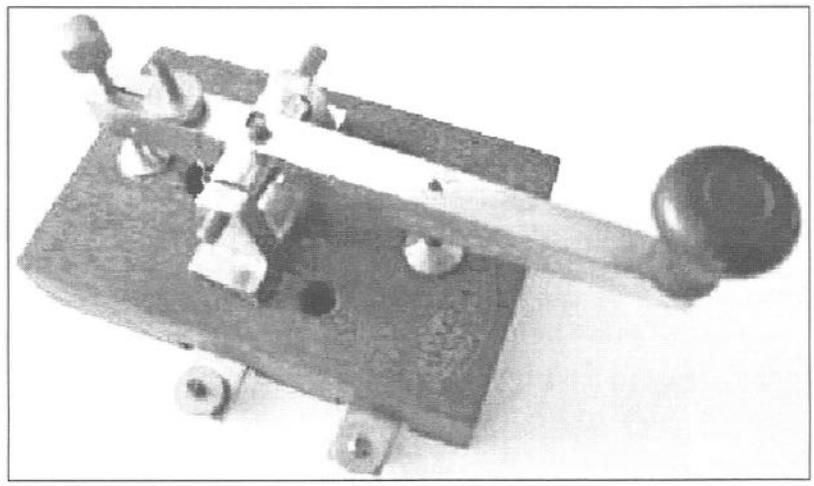
Buzza Products, Sydney made a variety of keys from simple learners sets to a very good semi automatic key.

Various components such as buzzers oscillators etc. were made and these found their way into many different set arrangements. Their brass key was something similar to the PMG brass key, but without a circuit closer and a couple of other minor parts. They were not particularly well made.





Buzza Practice sets

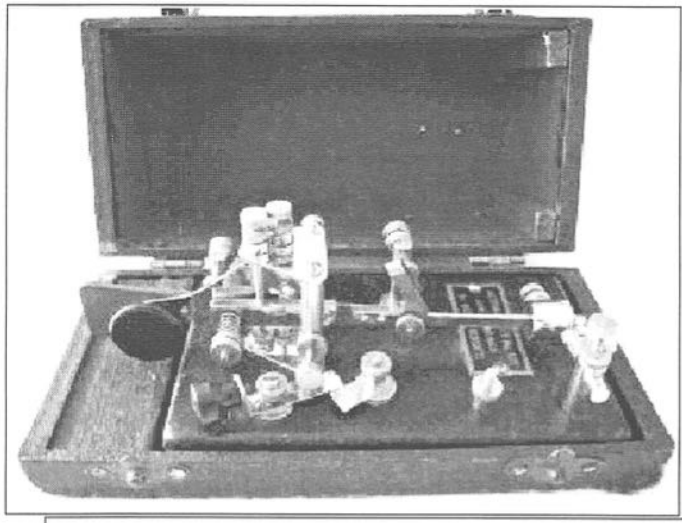


Buzza brass wooden key

During World War 2 a Bunnell 'triumph' type key was made with "Buzza Products Sydney" embossed on the trunion section. Possibly these were made for US forces in Australia as was the J36.

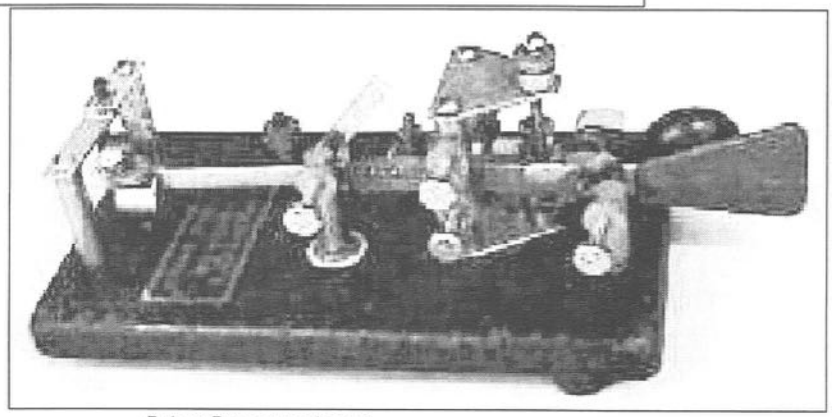
The Buzza 100 came in a single lever and double lever style with a 'T' damper post and also a single lever style with a 'bridge' damper style similar to the Lightning and the Levenson.

Given the similarity between the Levenson, 136 and Buzza 100, it seems likely there was a connection between Levenson and Buzza.

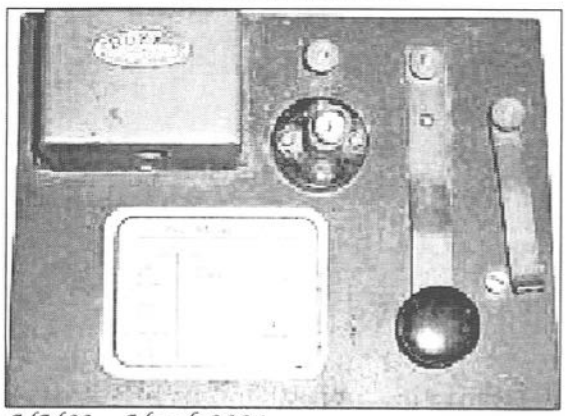


Left: Double lever Buzza 100

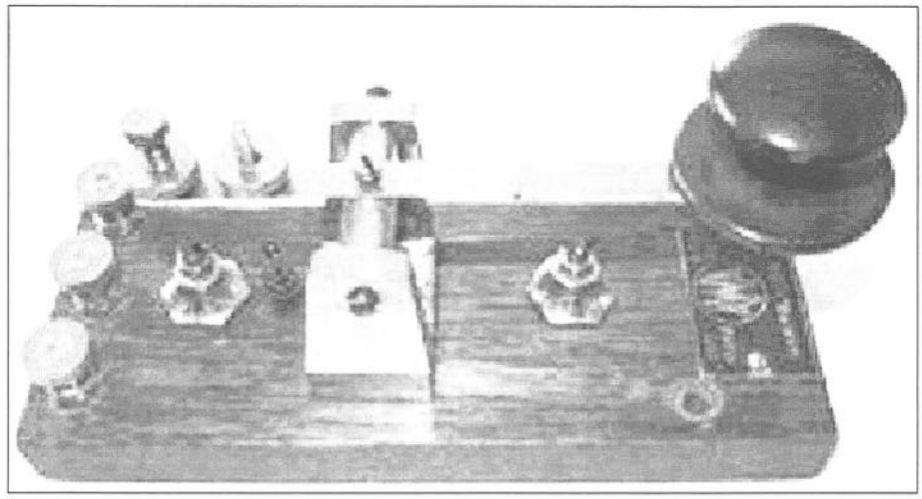
Below: Single lever Buzza 100



Below: Buzza practice set



The J36 was made for the US Signal Corp during World War 2. It is likely they were made by Buzza Products, Sydney as they appear to be exactly the same as the single lever Buzza 100. The label, which is similar in design and layout to the Buzza 100 reads 'J36 Automatic Key Signal Corp USA made in Australia'



A W A R688B key

A W A

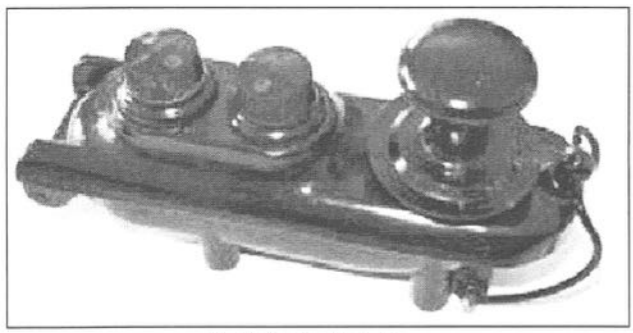
A W A (Amalgamated Wireless Australasia) made a variety of keys for the Defence Forces before and during World War 2. Possibly the most common is the WT8AMP key, and this was included in radio sets in a variety of configurations. The R688B was made in two models. The only difference was their labels and the height of the fulcrum and contact mounts. The key pictured is the higher version.

A similar key to the A W A R688B was made by Cinema Engineering P/L. The label read "Type Like R688B Manipulating Key "Cinema Engineering Pty Ltd". The knob was embossed 2018 A2-14.

A W A Key Telegraph (Aust) No.1 Mk2

Bathtub

Bathtub keys were made by both Radio Corporation and its subsidiary Eclipse Radio. They were black and can be identified by the l0A/ lettering prefix and the absence of a number on the inside of the lower section.



Australian Bathtub key

The Clipsal

Clipsal keys were made by Gerard Industries, Park Terrace, Bowden, South Australia for the Defence forces during World War 2 and manufacture continued after the war when they became popular keys for amateur radio operators. Clipsals were made in two and three terminal models and the firm also made WT8AMP keys. They are often incorrectly referred to as PMG keys. They did not have circuit closers and the terminals were on the opposite side. A few however were used on PMG radio circuits.

Blue Point

Blue Point keys were popular with amateur radio operators as learner keys in the 1950s. They were made in several different configurations using the learner key and the more refined key.

Doodle Bug

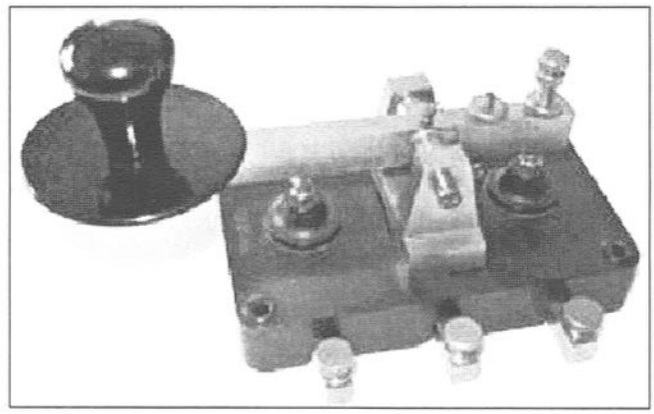
Many practice sets were made over the years and one which was popular with boy scouts was the Doodle Bug.

Simplex

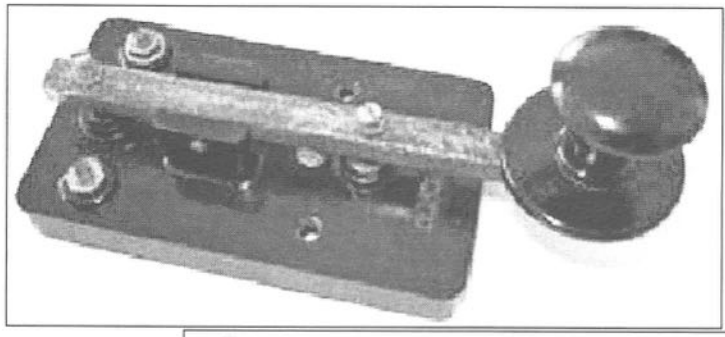
The best-known semi automatic key was the Simplex Auto. This was invented in the early 1920s and continued through to the 1950s with the same basic design. It was made at various times in left hand versions and also as a fully automatic key. The Simplex Auto has been dealt with in detail in a separate article (See MM88).

Pendograph

Albert MacDonald obtained a patent for his Pendograph semi automatic keys in 1908 and they were quite popular with Australian telegraphists. Three models were

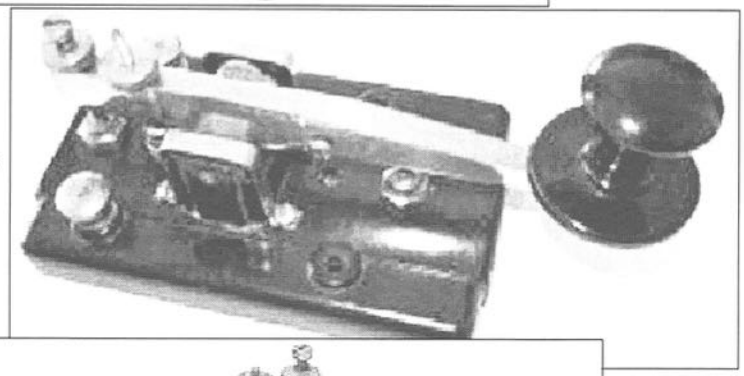


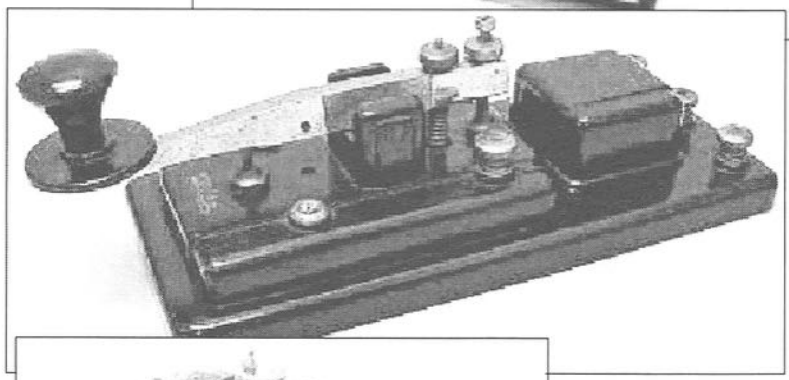
Clipsal 3 terminal key.

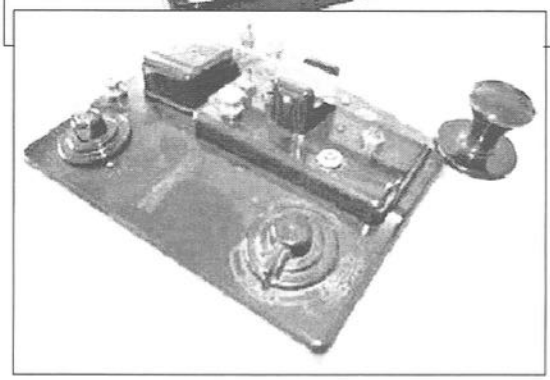


Blue Point XIO learners key

Blue PointXX20

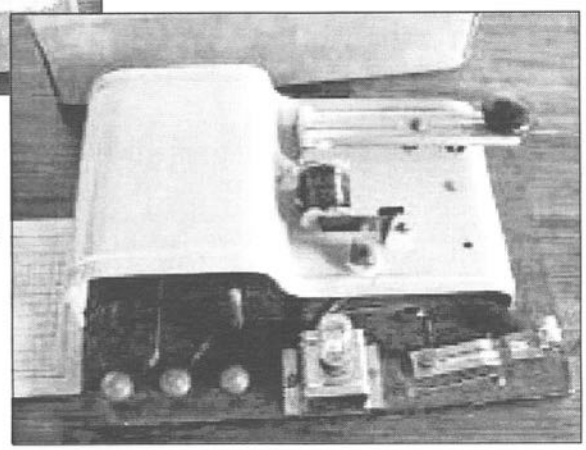




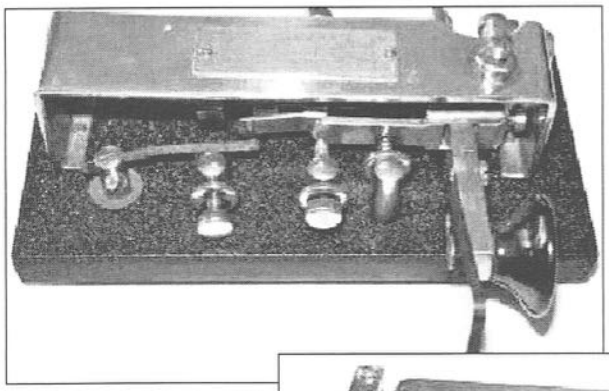


Above: Blue Point XX20A
Left: Blue Point XX20B

Doodle Bug box

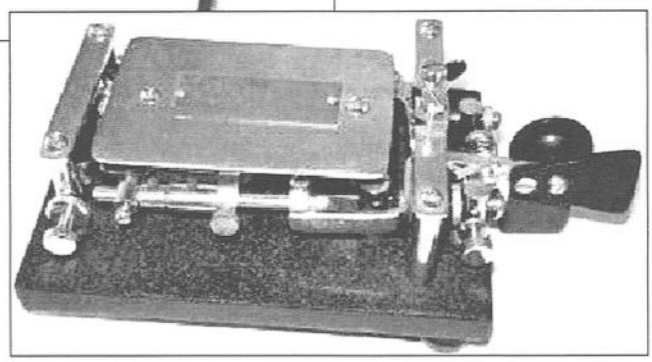


Doodle Bug practice set

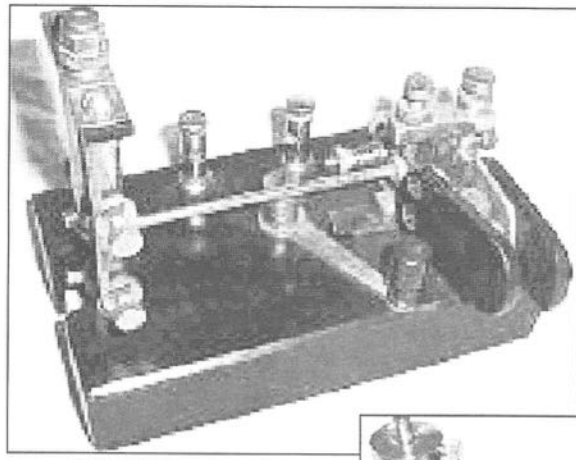


Simplex Auto label

Simplex Auto first model



Simplex Auto fully automatic model



1st model Pendograph

produced - two right angle models and one 'in-line' model. These have been extensively covered in a separate article (see MM88).

Automorse

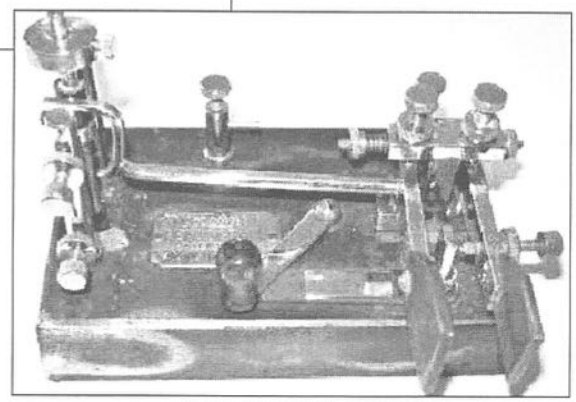
The first fully automatic key made in Australia was the Automorse which was invented by an Adelaide Telegraphist Norman Percy Thomas in 1918. It is distinctive by its 'T' shaped upper frame. Again this key has been fully covered in another article (see MM88).

Other Semi Automatics

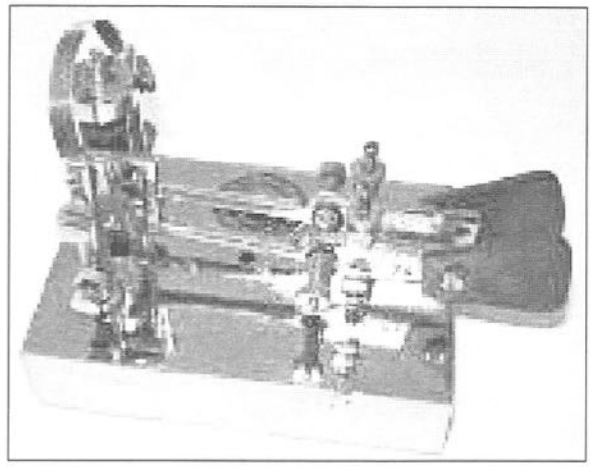
Several semi automatic keys were made by individuals and only a very small number were produced, possibly because of production costs and competition from the widely accepted Simplex Auto and Pendograph. Little is known about their designers or the history of the keys.

Shurdot

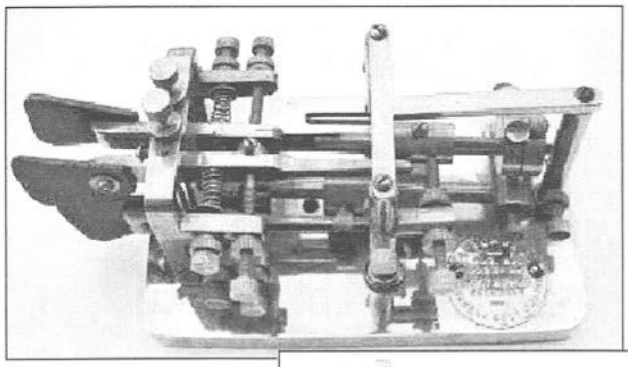
The label reads "Shurdot" Morse Key made by J. Scash 10 Randell St Mordialloc. Mordialloc is located in Victoria.



Second model Pendograph

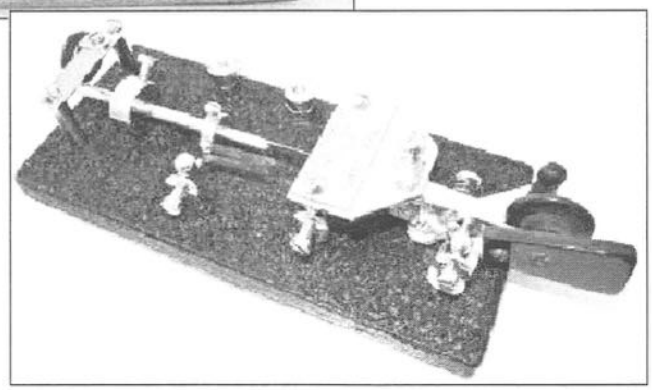


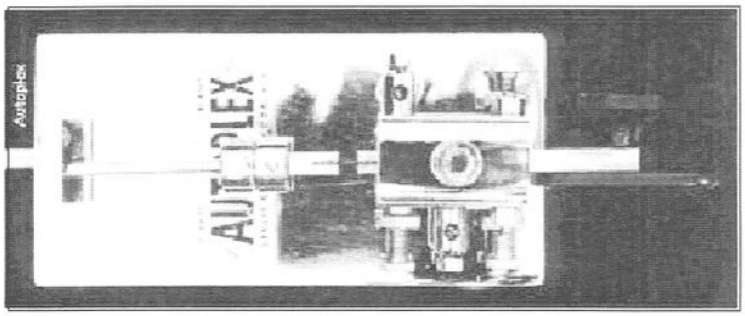
Third model Pendograph



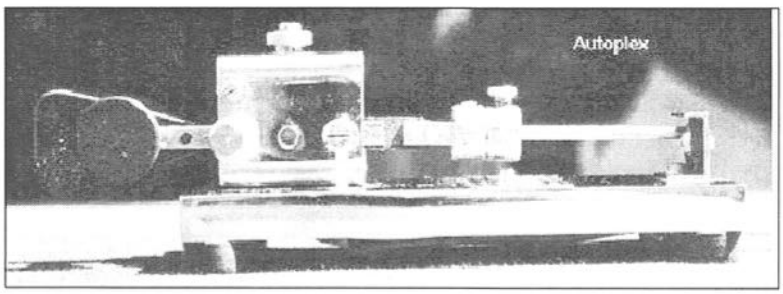
Automorse

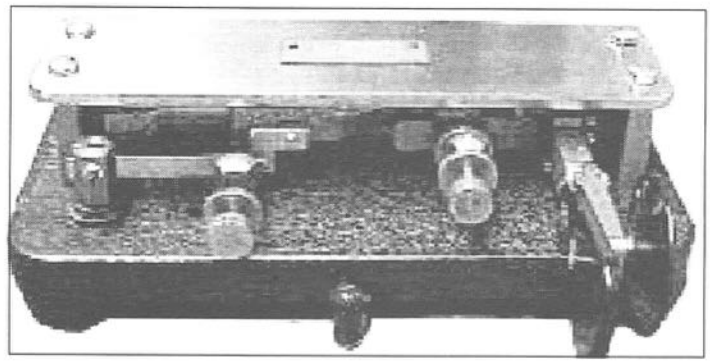
Shurdot





Autoplex





Codemaster by BMR

Autoplex

The Autoplex was made in Victoria, the label reading "J. Vaile BF 8147 AUTOPLEX Leslie Crt Burwood Vic". Presumably BF 8147 is the telephone number as they would have been designated in the 1950s.

Codemaster

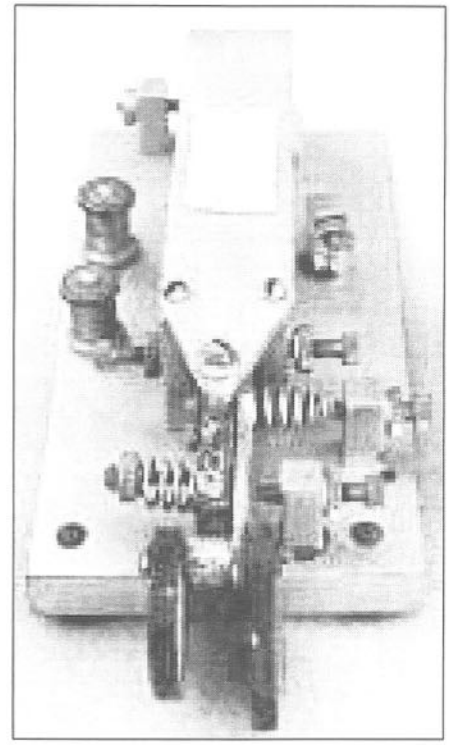
The Codemaster was made by BMR, Sydney and was similar to the Simplex Auto, but with the bridge supported by four posts. It carried a circuit closer fixed under the frame and as well as the 'Codemaster' label on the bridge, a second label reading "B.M.R. Products 69 Pacific Highway Waitara Serial No. xxx" was attached beneath the base. Waitara is a Sydney suburb.

Ingram 'Master Key'

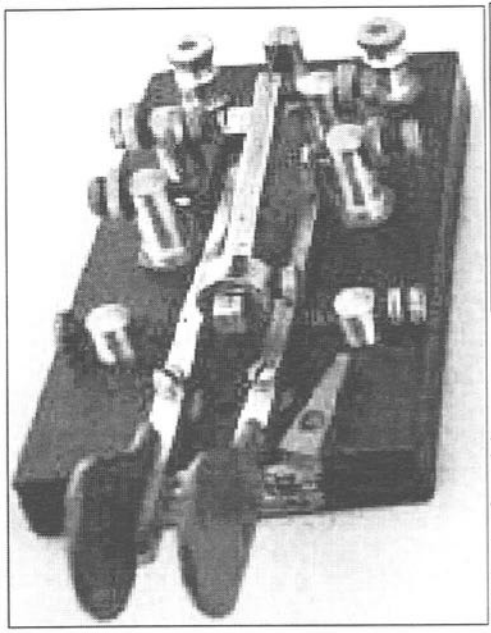
Another Perth Telegraphist who made a semi automatic key was H. C. Ingram who named his key "Master Key". The label has MASTER KEY between two diagonal lines with 'Manufactured by' above and 'H. C. Ingram C.T.O. Perth', below. Another semi automatic key was made by Ingram, but I have no information on this.

Piergraph

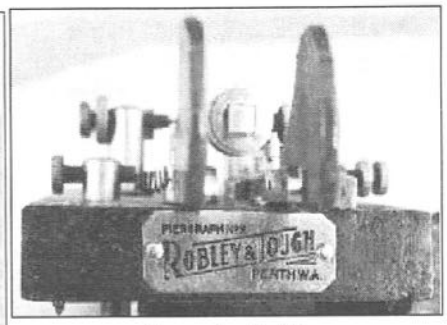
The Piergraph semi automatic key was made by Robley and Tough, two telegraphists in the C.T.O., Perth who set up a machine



H. C. Ingram



Piergraph - Top View.



Piergraph - End View.

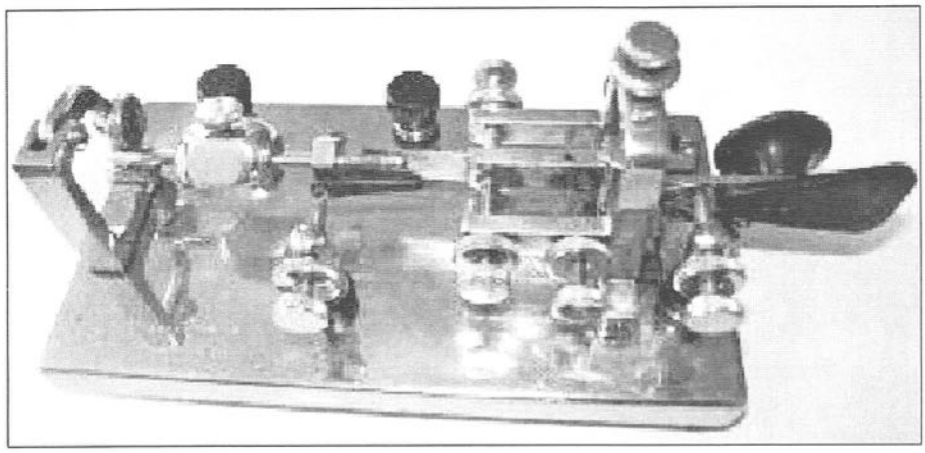
shop in Pier Street, Perth, Western Australia in the 1920s. The label of the key pictured reads 'Piergraph No.2'. It is not known if there was a No. I Piergraph.

L. A. Paruscio

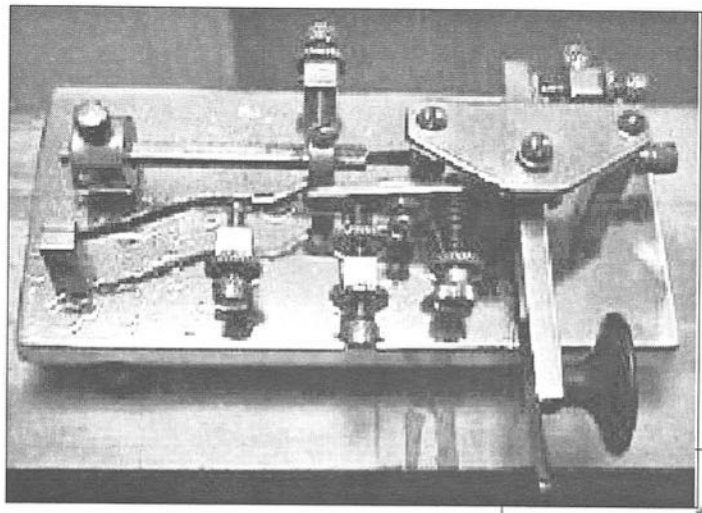
L. A. Paruscio (Lou) was a Telegraphist in the Melbourne C.T.O. and made a small number of semi automatic keys very similar to the Vibroplex Original with the 'swinging damper'.

Unknown

A semi automatic key with the same basic design as the Simplex Auto, but with a much smaller bridge, was made in Australia. I have no details of



L. A. Paruscio



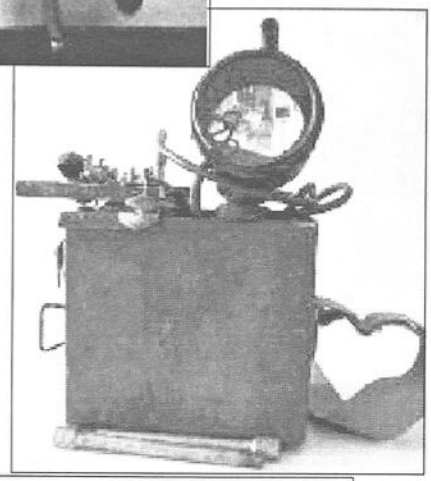
Left: Semi-automatic key - unknown make.

its name or its maker.

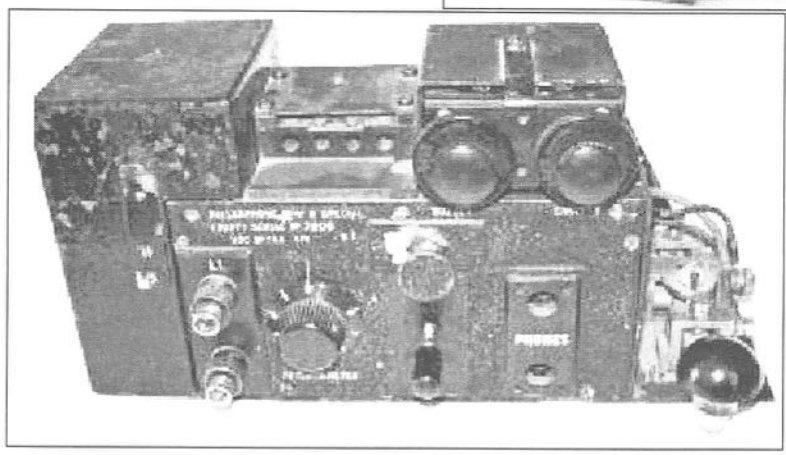
Other Telegraph Equipment

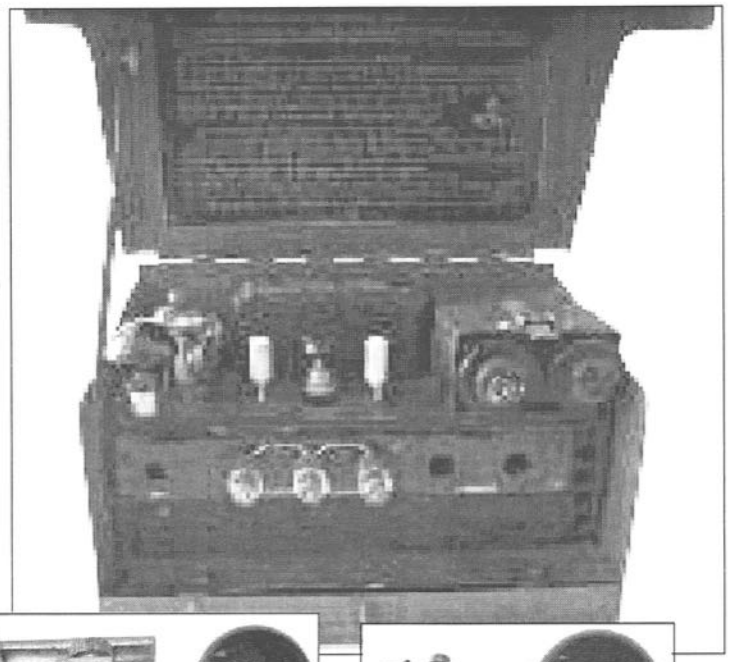
Several organisations, PMG, A W A, STC (Standard Telephones and Cables) and Stromberg Carlson manufactured a variety of training, operational and field sets around the World War 2 period. ***MM***

Below: Daylight Signalling Set.



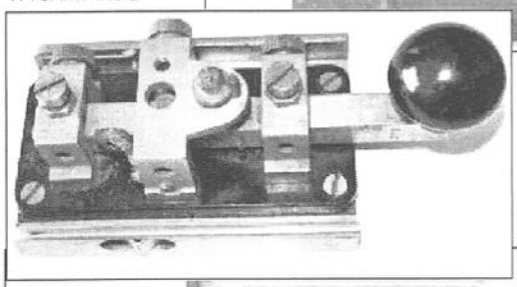
Fuller Phone Mk IV.

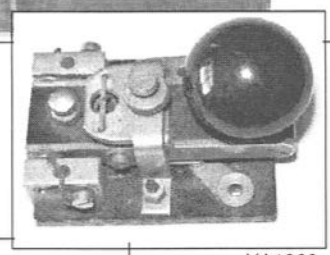




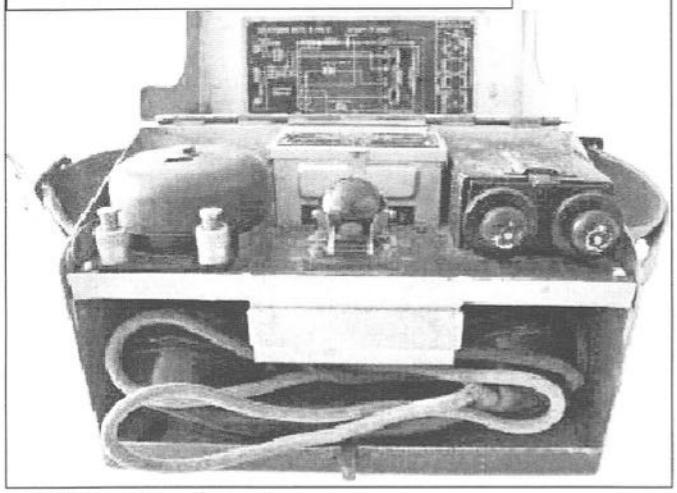
Wireless Remote Control Unit A

WT8AMP No 2





YA1860



Telephone Set D Mk V

Your Letters

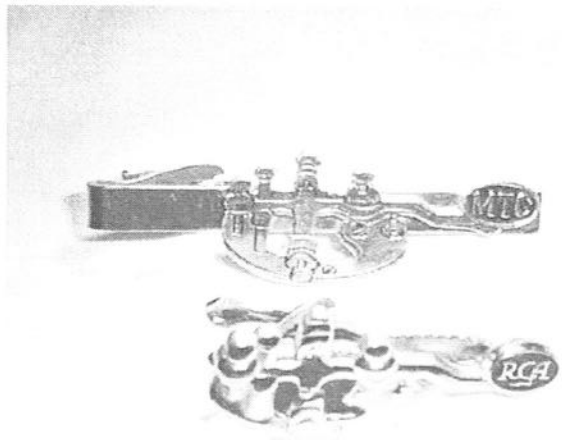
RCA Tie Clip Article

I picked up another tie clip that appears to be a copy of the RCA tie clip. As you can see it is a flatter construction with engraved and paint-filled lines to give the depth perception. I now have Morse key tie clips for narrow and wide ties!

It is marked 'MTC' and Bill Dunbar, a past President informs me that it was issued by the Morse Telegraph Club during the period 1973 - 1984 when Cecil Combs was President and A.J. Long was Secretary-Treasurer.

The one Bill owns does not have an open key base but has a black matt finish, so there must have been at least two production runs.

Chris Bisaillion, VE3CBK
Ontario, Canada



Correction JRC Key MM88 P25

The J.R.C. KY-3 Key uses Japanese Industrial Standard (JIS) threads and the KY-3A Key uses International Organization for Standardization (ISO) threads.

Apologies to Heisuke Kimura.for the error.

Ed.

MM88 P40 Naval Key

In the 1960s I used to visit Company in Brighton called Allen West Co. Ltd. At that time they made control gear for induction and starters. The technology of these products is very similar to making a key of this type. This could possibly be the same company.

W. J. Omer
Slough, UK

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.

Ads can include one photo free of charge

FOR SALE & WANTED

WANTED: RCA Morse Key Tie Clip as described on page 12 of MM88. John Davies, G4ETQ, 12 St John's Close, Claines, Worcester, WR3 7PT, UK. E-mail: g4etq@btinternet.com

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.

FOR SALE: FULL SET of Morsum Magnificat, Nos 1 - 89. Absolutely mint condition. Phone +44 (0)2870 848815.

WANTED: "A Handbook of Practical Telegraphy" by R S Culley.
Ron McMullen; email:
ronmcm@iprimus.com.au.

TEXTBOOK WANTED: Handbook of Technical Instruction for Wireless Telegraphists, seventh edition (1942 - 44) edition by Dowsett and Williams (Iliffe). A good price is offered, plus postage costs. David Smith, ZL2BBB,

WANTED: I am interested in (somewhat special) telegraphy apparatus. Swap or buy. Thanks! Fons Vanden Berghen, Lenniksesteenweg 462/22, B-1500 HALLE, Belgium.
E-mail:
fons.vandenberghen@pandora.be
www.faradic.net/~gsraven/fons_images/fons_museum.html

I HAVE much telegraph surplus including NOS 1950's US Navy Flameproofs - CMI & CJB 26003A - $65 including USA mail; slightly higher elsewhere. Also includes copy of key's 11page milspec. Dr. Joe Jacobs, 5 Yorktown Place, Northport, NY – 11768, U.S.A. Phone +1-631-261-1576; Fax +1-754-4616. E-mail: joekey@aol.com

FOR SALE NSW BOOK: "Radiotelegraph and Radiotelephone Codes, Prowords and Abbreviations" 3rd Edition (236 pages), 610 gm (1.5 lbs), now available. Probably the World's best compilation of this info now available. Q,X,Z Codes, 142 Phonetics, 24 Morse, 8 Needle codes. Myer, Phillips, 10, 11, 12, 13 and other codes. Much other info, abbreviations, procedures and methods. Price AU$25 + p&p. (in Australia $7.50) Internet: http://www.sarc.org.au/sarc1/phonetic.htm John Alcorn, VK2JWA, QTHR, Phone +61 - 02-66215217 vk2jwa@sarc.org.au

I AM A KEY COLLECTOR with over 300 different keys from 20 countries and have 50 keys available for swapping. Write to Henri Heraud, F6AOU 9 Avenue de Bellevue, 91130 RIS ORANGIS, FRANCE.

ReadersAds

FASZINATION MORSETASTEN - German Telegraph Keys Collector's Guide, 180 p., 400 photos & diagrams, 250 key designs from more than 100 manufacturers in German speaking countries. •25.00 plus •4.10 postage and packing. Greg Ulsamer, Logumer Str. 66, D-26723 Emden, Germany. E-mail: dl1bfe@emsnet.de"

TELEGRAMS FOR SALE from 1901 to 1955. A number of them are with advertisements and some on commemorative forms. Ranjit Singh, AN-18-c Shalimar Bagh, Delhi-110088, India. E-mail: singh_ranjit70@hotmail.com www.indiatelecards.net

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.

WANTED TO BUY: GPO Type 56 key and Marconi side-lever Morse key with brass hardware on a wooden base. Letters to: D. Johnson, W5FZ, 15514 Ensenada Drive, Houston, TX 77083-5008, USA. Or Email: w5fz@arrl.net

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 or 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: Back issues of Morsum Magnificat. Volumes 1 thru 23, 25, 27, 28 and 30 are needed. Please contact Dennis P. Skea, KC2CCZ, 25 Argent Drive, Poughkeepsie, New York 12603, USA. +1 (845) 298 - 0951
E-mail: KC2CCZ@arrl.net

EXCHANGE: I have MM magazines, issues 36-80 inc(45mags)to exchange for a Vibroplex double-paddle. Can collect/ deliver in UK. Phone Keith +44 (0)7946-663109.

FOR SALE: Morsum Magnificat nos 6, 9-11, 13-54, 56, 58, 60-76. 65 copies £125 o.n.o. including postage and packing. Geoff Newland, 32 The Grove, Winscombe, North Somerset BS25 1JH. Telephone (mobile) 07802 786564. E-mail: MM@GeoffNewland.co.uk

FOR SALE: MM issues 41 – 83 complete as new, Offers for the lot. Heathkit Electronic Keyer Model HD 1410 unmarked with manual, offers, plus carriage. E. H. Trowell G2HKU, 'Hamlyn', Saxon Avenue, Minster, Sheerness, Kent, ME12 2RP, UK. Telephone 01795 873100.

THE LAY OF THE LAST SIGNALMAN

On a thickly wooded sponson where the last projector stands
The museum pair of hand flags hanging idly in my hands
With my jargon half forgotten of my stock in trade bereft
I wonder what's ahead of me, the only bunting left.

The relics of my ancient craft have vanished one by one
The cruiser arc the Morse flag and manoeuvring lights have gone
And I hear they'd be as useless in the final global war
As the helio the foghorn and the masthead semaphore.

The mast is sprouting gadgets like a nightmare Christmas tree
With whips and stubs and waveguards where my halyards used to be
And I couldn't hoist a tack-line through that lunatic array
For at every height and angle there's a dipole in the way.

The alert and hawk-eyed signalman is rendered obsolete
By the electronically operated Optics of the Fleet
And the leaping barracuda or the charging submarines
Can be sighted as a blob upon a brown florescent screen.

To delete the human error, to erase a noble breed
We rely upon a relay and we pin our faith in Creed
So we press a button, make a switch and spin a little wheel
And it's 100% efficient - if we're on an even keel.

But again I may be needed, for the time will surely come
When we have to talk in silence and the modern stuff is dumb
When the signal lamps are flashing or the flags are flying free
It was good enough for Nelson, and it's good enough for me.

Issued from various sources - this one taken from the Communicator magazine. Contributed by Wyn Davies.

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