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**S**tories about enemy spies who were captured and 'turned' to send false or misleading information to the enemy during WW2 can be found in many articles, books, films, and on the internet; and their activities impacted, in some cases to a considerable degree, on the outcome of the war.

This article describes how one of these double agents maintained radio contact with his control masters in Germany with a simple one-valve transmitter and a three-valve regenerative receiver; keeping up the illusion that he was undetected and freely able to obtain and send information of value to them.

## Arrival by Parachute

On the evening of 19 September 1940, **Wulf Heinrich Schmidt**, a Danish citizen, designated by the enemy as Agent 'Leonhard' parachuted into a field near Willingham in Cambridgeshire. He was arrested by the police the next day, and taken into custody at Camp 020, MI5's centre for captured civilian agents, at Ham Common in South London.

Under interrogation he said that his instructions were to establish himself somewhere in a triangle between Cambridge, Bedford and London. He was to report by wireless on anything likely to be of interest to the German invasion force (Operation Sealion) which, he had been told, would arrive in Britain very shortly.

Faced with the possibility of trial, and execution, as a spy, he agreed to become a double agent and was given the code name 'Tate'. Controlled by MI5 and the Double Cross (XX) System, which co-ordinated the work of all the double agents, his task would be to transmit false information to the enemy, obtained by fictitious intelligence gathering activities and imaginary contacts with important people in high places.

He was then taken to Willingham under escort where his parachute, flying overalls and helmet, transmitter, receiver, batteries, Morse key, two aeri- als and a map, were recovered.

## Confirmation Expected

His crystal-controlled transmitter had an output of 3 watts, with two plug-in crystals, for 4603kc/s and 6195kc/s. He had two aeri- als, one for each frequency. His instructions stipulated that they were to be erected, running from East to West, as high and free as possible and, if necessary, the shorter aerial could be used for either frequency.

He had received no instruction in wireless theory but knew how to erect the aerial and tune the transmitter.

He was to contact his control station in Hamburg as soon as possible after he arrived. If the transmitter failed, he was to report this on a postcard sent to an address in Lisbon, writing his message

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# Double Agent Ham Chat

Tony Smith G4FAI relates a curious tale from the war years.

with invisible ink on the reverse of the card. If that happened, Hamburg would not expect to hear from him again.

## Morse Operation

He was to transmit between 0000 and 0200 GMT, and listen for a reply on 6200kc/s. He knew Morse from his previous service in the Danish army, but to improve his skill he had been on a course in Brussels. Although he could send at 18-20 words per minute (wpm) he had been told to reduce his speed to 6-8 wpm. One German operator, **Brandt**, who he had met during training, knew his style and they had a private arrangement. If Brandt was operating, he would send Leonhard (i.e. Tate) HR BRA in greeting.

Tate was asked if there was an emergency signal that he should send to indicate that he was being used by the enemy. He did not know of one. The possibility of being captured and 'turned' was never mentioned by his instructors.

All messages to and from his control were to be coded by use of a circular disc he had brought with him; and the callsigns for the day could also be determined from the disc.

## First Transmissions

Under escort, and supervised by an MI5 radio officer, Tate now attempted to send his first message to Hamburg, to report his safe arrival in England.

Several locations were tried, using different aeri- als, to simulate typical situations where he might have tried to set up his station if he had not been caught. These included Central London, Cambridge, Steeple Bumpstead, near Cambridge, Ham Common, and a house in Barnet, all without any response from Hamburg.

On one occasion a weak chirpy signal was heard on 6200kc/s, sending material that was unreadable. It sent a series of Vs (QSV) after Tate sent QRZ? QSV (who is calling me? Send a series of V's), but it was not clear if they were replying to him.

Photo 1: Hallicrafters Sky Buddy receiver as used by Tate (Advertisement 1939). Photo 2: HRO receiver, as used by Tate (Photo: Tony Smith). Photo 3: TKP Morse key. Photo 4: Tate's radio at the National War Museum, Edinburgh, wrongly attributed to Walti (Photo: Dave Pack). Photo 5: Tate's transmitter (Photo: Harry Matthews). Photo 6: Tate's receiver (Photo: Harry Matthews). Photo 7: Tate's Transmitter schematic (by Harry Matthews). Photo 8: Suitcase radio, type SE 92/3, as carried by Walti (Source unknown).

Throughout this time, Radio Security Service (RSS) stations, including some VIs (Voluntary Interceptors), given advance notice of the times, frequencies, and callsigns of his transmissions, without being told their purpose, reported them mainly at good strength. Assuming that Hamburg had also been listening for them, Tate's supervisors reported that there should have been no difficulty in making this initial contact.

## Success!

For three weeks he called without success, but band conditions were difficult. His receiving frequency was very close to those of several shortwave broadcast stations, including the BBC Overseas Service, Andorra, Lisbon, Vatican, Zeesen and New York. Equally, Hamburg must have had difficulty in receiving his QRP (low power) signal among all the high-power broadcasters.

Contact was finally made on 16 October 1940. Reception in Germany was poor on 6195kc/s. He was asked to change to 4002kc/s, a frequency which he didn't have; but finally managed to get through using his 4603kc/s crystal.

## Regenerative Receiver

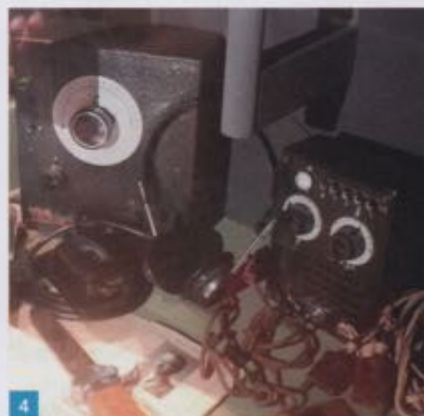
From then on, he was in regular contact with Hamburg, but conditions continued to be difficult. Solar cycle 17, which began in 1934, had peaked in 1939 and was declining steadily towards its minimum (which it reached in 1944), creating QSB (fading) at times, while a number of solar storms in that period disrupted radio communication worldwide.

Tate's regenerative receiver was of the type used by many radio amateurs before the war. With the regeneration correctly adjusted it could receive weak CW and other signals well but there were problems when they were close to strong signals from other stations.

To improve reception, he was given a better receiver, the Hallicrafters Sky Buddy. Later, he was given an HRO receiver as used by the RSS monitoring stations and by some Voluntary Interceptors.

## On-air 'Ham' Exchanges

Hamburg often used what Tate's supervising officers called 'a form of ham chat'. He had brought with him a selection of Q-codes written in Spanish on a small card, all of which he used on air. An ad-



ditional signal, the letter D, was to be sent several times if he had to stop transmitting because of the danger of being caught.

Typical phrases noted before and after the coded messages, included, among others:

GE OB, QSA4, ERE QTC1, QRU? AR K  
R R OK OK, TKS, GB DR FRD, VY 73 ES CHEERIO  
SK SK SK  
CHEERIO ES DX, NW IMPOSSIBLE, FB SK  
HAPPY NEW YEAR OB, DO NOT GET DRUNK  
PSE SEND YOUR QTC, HAPPY CHRISTMAS  
GB OB, SLEEP WELL  
TNX DR FRD FR ALL  
TNX FR FB QSO

and it was concluded from such exchanges that Hamburg was manned by at least some pre-war professional, or amateur, operators.

## QTC?

To call Hamburg (H), he sent his callsign, repeating it for about ten minutes, then QSA? QSA? PSE K PSE K awaiting a reply.

H would reply with their call, repeating it for about five minutes, then send OK QSA3 (or other strength of signal received) QSA? (What is my strength?) PSE K K.

H would repeat their call several times, then QTC? (How many messages for me?) ERE QTC 1 (I have one message for you).

Tate would then send and receive his coded message or messages.

If there was doubt about anything, H would send PSE RPT WD 6, (for example, repeat sixth word in text.)

If H received the message satisfactorily, they would send QRU (I have nothing for you), or sometimes OK ERE NIL PSE K, and Tate would finally send OK SK CL.

A report on file noted that Tate sent very good Morse, 'clean stuff and quite fast,' and that he had increased his speed by practice on the receiver.

He was able to read Hamburg through quite a lot of interference, and this was described as 'the mark of a good operator.' However, he didn't like the small 'Mouse' key which came with his set and was given a larger, better key.

## Fear of Discovery

There was a constant fear that other German agents (V-men) might try to contact him and discover that his imaginary role, as a well-off, well-connected man-about-town, financed by money sent from Germany, was a sham.

A few of the contacts mentioned in his messages give an idea of the range of his 'sources': 'Met an RAF Sergeant on leave'; 'Got into conversation with some Irish Guards'; 'Overheard conversation of two very high officers'; 'Mary works in a cypher office of one of the big ministries'; 'Have been working my way slowly but surely into the better circles in London'; 'An RAF officer told me...';

Following rumour is current...

Far from such a well-connected information-gathering life, an inquiring agent would have found 'Leonhard' in a safe house at Watford, supervised by an MI5 Radio Officer, a small team of watchers, and a cook/housekeeper.

During the day, when he was not engaged in clandestine communications, he was allowed to work for a local photographic company, and as a freelance photographer for a local newspaper, under the name of Harry Williamson.

It was not realised until after the war that there were no V-men left in the country to try to contact him. With one exception, who arrived undetected and subsequently committed suicide, all those who had arrived had been captured, imprisoned, or executed, or persuaded to become double agents.

There was serious concern in February 1944, however, when the Intelligence Agency of the SS (the SD) took over the Abwehr and reorganised the system of contacting and controlling the V-men. It was feared that they might find cause to doubt the authenticity of the reports they received from 'Leonhard' but eventually everything settled down and continued much as before.

### Awarded the Iron Cross

A note on file, dated 15 April 1941, reported that Tate had been renamed 'Iron'. Despite this, many of the reports, notes, or correspondence on the files continued to refer to him as Tate; and, to avoid confusion, he continues to be known by that name in this account.

A few weeks later, on 6 May 1941, he, as Leonhard, received a message from Germany: 'Have just learnt that you have been decorated in the name of the Führer with the Iron Cross, First and Second Class. We all most heartily congratulate you and our thoughts are with you.'

### Increased Power?

Notes on the files discussed the possibility of using a more powerful transmitter after Hamburg instructed Tate to 'increase power somewhat,' but this idea was rejected for several reasons.

A similar type of transmitter would have to be used and it was doubtful if his crystals would tolerate much more power than that already used.

Any replacement would have to be battery powered. If a mains powered supply was used, any trace of mains ripple would be detected and fatal to the operation; or a mains failure would immediately put him off the air and arouse suspicion.

Other reservations were that batteries for a more powerful set would be very expensive and require constant renewal; the character of the signal would change; and it would be very difficult to ensure that there was no change in its audible note.

### New Frequencies

In March 1942 Hamburg changed to two new frequencies, 6620kc/s and 4850kc/s; and new traffic



times at 0630 and 1830 GMT.

Interference on Tate's transmitting frequency of 6195kc/s was so bad that it was practically unusable, and he sent a message: 'Absolutely essential you send another crystal. Jamming makes contact impossible. Please arrange something.'

His 4603kc/s frequency had been giving reasonable communication, but efforts were made to persuade Hamburg that conditions were not so good on that frequency either. The output power of the transmitter was reduced by inserting a series resistance in the HT lead; but despite a considerable reduction in power, the signal reports were still quite good.

A shorter aerial, of about 15ft (4.5m) was tried, resulting in QSA1, which was barely readable in Hamburg and the original aerial was reinstated. More resistance was added to the HT line, and the output was reduced to 1.5W.

It was hoped that this reduction in power would expedite the delivery of the requested crystal, as Hamburg might conclude that contact was in danger of breaking off completely. In January 1942, another spy, who was captured on arrival, brought more money for Tate to subsidise his 'lifestyle'. He also brought a new 7412kc/s crystal which, unfortunately, was outside the range of Tate's transmitter and was unusable.

### New Operator

When Tate became ill, an MI5 operator, copying his style, transmitted his messages for him. A specially made monitoring circuit enabled the operator to hear both his own transmission and the reply station on one set of headphones, while another set wired to Tate's bedroom enabled him to listen to both ends of the contact. Two receivers were used, the HRO and the Sky Buddy, previously mentioned.

After recovering from his illness, Tate did not operate again. He did, however, continue to monitor the transmissions and assist in compiling, coding,



and providing an authentic personalised flavour to the messages, as well as suggesting new areas of misinformation likely to confuse the enemy.

### Longest Serving Double Agent

On 21 September 1944, to emphasise his value and commitment to his 'mission', he sent, tongue in cheek, 'On the occasion of this, my 1000th message, I beg to ask you to convey to our Führer my humble greetings and ardent wishes for a speedy victorious termination of the war.'

In all, he sent or assisted with, around 1100 reports or messages to Hamburg from 16 October 1940 until 2 May 1945, the day before that city surrendered to the British Army.

He sent misleading weather reports, deceptive information about military, naval, air force, industrial, and agricultural matters; the effect of bombing raids, including the V1 and V2 missiles; food supplies and the morale of the population.

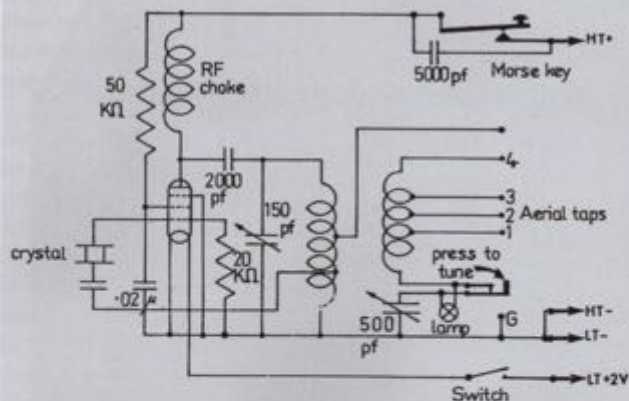
He was the longest serving double agent in WW2, and he remained in England after the war until his death in 1992. He was described by Sir John Masterman, Chairman of the XX Committee, as: 'One of our most trusted wireless agents.'

From the German side he was described by General Lahousen, Head of Abwehr II (sabotage and espionage), as 'one of the most reliable and trusted German spies in Britain... all through the earliest parts of the Blitz, at great danger for his own life, he was in the heart of the bombed areas... and made reports by his radio. In 1944, he made long reports on the preparations for D-Day supposedly moving about the restricted coastal area of southern England. He also sent important information about the V-1 and V-2 rockets.'

### Historic Artefact

QRP enthusiasts today can appreciate how well Tate's 3W transmitter performed throughout its long operational life, and the similarity to amateur operation and practice is interesting. The early

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C.H.M. 1986.



problems with simple wire aeri- als, coupled with difficult conditions, both QRM (interference) and QSB (fading), sound familiar, and all the while he was operating in great secrecy.

His little transmitter is an important radio artefact of WW2. A German set that saw war service in a way that was never intended. The story of how, operated by Tate, and later by an MI5 substitute, it successfully transmitted misleading messages on behalf of the Allies is extraordinary, and can be read about in greater detail in the reference material listed at the end of this article.

### Pure CW Note

*Wireless World* (WW), in February 1941, carried an officially approved description of Tate's transmitter although, for security reasons, it was not identified as such. Comment was made that the circuit was almost the same as one used by a member of the WW staff in 1924, apart from the use of a quartz crystal and a pentode valve, and that 'a rather more finished job might have been expected from the best German technicians.

Nevertheless, when crystal controlled it produced a pure CW note. If the crystal was removed, and the plug sockets were short-circuited, the set could be operated without frequency control, still with good stability, and with a pure note over the useful part of the tuning range.

### Where is Tate's Radio Now?

After the war some captured German spy radios were distributed to museums or other appropriate repositories. Tate's set was sent in error to **William Merrilees**, the Chief Constable of Lothians and Peebles Constabulary who, in 1940, then a Police Superintendent, arrested a German spy, **Werner Walti**, in Edinburgh. When arrested, Walti had a suitcase radio, and the intention was to return this to **Mr Merrilees** when the war was over.

In 1986, Tate's set, still believed to be Walti's,

was given to Leith Police Museum in Edinburgh. Before being displayed in the museum, it was examined and photographed by **Harry Matthews**, founder of the Museum of Communication, Burntisland, Fife.

The Police Museum closed, in 2013, and the set is now on display in the National War Museum, Edinburgh Castle, still attributed to Walti.

The National War Museum has been told about this long-standing error. It is making its own enquiries to confirm the provenance of the set, and it is hoped that the misunderstanding will eventually be resolved.

### Where is Walti's Set?

Further research has revealed that the Imperial War Museum (IWM) in London has a suitcase set in store, Ref. IWM (COM 1500), which it describes as 'believed to have been the set belonging to agents Werner Heinrich Walti and **Karl Theo Druecke**, who were captured in 1940.'

However, Walti and Druecke who landed on the coast of Scotland with a woman agent, **Vera Eriksen**, did not share a radio. Druecke and Eriksen were arrested shortly after landing, and Walti later the same day in Edinburgh. Both men had suitcase radios and different missions and, apart from landing together, had no connection with each other.

It seems possible that the set at the IWM is Walti's. This has been pointed out to the museum, and no doubt, if they think it is of sufficient interest, they too will make their own enquiries to clarify the situation.

Meanwhile, in Edinburgh, Tate's radio, which played such an important part in the 'deception' war waged by the Double Cross (XX) system, remains uncredited, and unrecognised, as it has been since 2 May 1945!

My thanks to **Dave Pack**, who visited the National War Museum in Edinburgh Castle for me to photograph and confirm the existence of the wrongly attributed 'Walti' radio display.

### Specification of Tate's Transmitter and Receiver

Transmitter: Type SE 88/5, with one KL2 valve and 3W output; crystal-controlled with two plug-in crystals, 4603kc/s and 6195kc/s.

Frequency range: 6600kc/s to 3900kc/s (45.4m to 76.9m).

HT power supply: Three Pertrix Piggi 90V batteries in series, giving 270V.

LT battery: 4.5V. A resistance was built into the circuit to enable the 2.5V KL2 valve to work from a 4.5V battery.

Separate Receiver: Type E88, three-valve, regenerative.

Frequency range: 8810kc/s to 4140kc/s (34m to 72.4m).

Power supply: HT battery 90/150V. LT battery, 4.5V.

Aerials: Two aeri- als supplied, one for each of the two crystal frequencies. For 6195kc/s the aerial and counterpoise were each 9.5m (31ft 2in) long. For 4603kc/s they were each 13m (42ft 8in) long, in both cases including the lead-ins. **PW**

### Reference and Further Reading

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