

3, Arundel House, Courtlands,
Sheen Road, Richmond, Surrey TW10 5AS.
Telephone: 020 8940 3223 email: geoffrey.pidgeon@virgin.net
www.geoffreypidgeon.com

SCU-NEWSLETTER No. 2-17
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1. Sorry for the long gap - but this is important ‘for the record!’

This has easily been the longest space between my Newsletters - since they started back in 1997. However, this was not due to my advancing years (now 91) but the need to follow up SCU-Newsletter 1-17. In it I reported the amazing story of the ‘Telephone Directory’ wireless set made by the Resistance in Denmark during the German occupation. The designer of this remarkable set was Lorens Arne Duus Hansen the Senior Engineer of Bang & Olufsen - the wireless company who were at first - allowed to trade as before.

I felt I had to go to Denmark to meet Hans Bonnesen who is an authority on several related subjects: The SOE/SIS antagonism that showed up so badly in his country; the ‘Telephone Directory’ by Duus Hansen; the leading men in the resistance including Thomas Sneum - a brave man but who could equally vie as a as an outstanding Lothario!

To remind you, I had said that our early agent’s sets, designed by MI6 (Section VIII) engineers at Whaddon Hall, were so heavy it was thought that the German forces could spot an agent as he would have one arm longer than the other!) Our later and lighter MkVII was a considerable step forward.

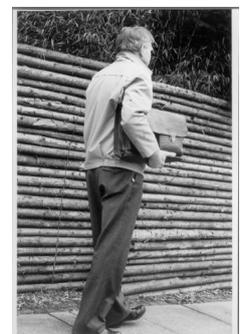
Our smallest transceiver was the MkVII shown here in an attaché case. We had to include a transformer in the case so as to cope with other voltages the agent might encounter.



The so-called ‘Para set’ (or ‘Cash box’) version to the right would have to include a separate transformer. The valves - here clipped in the lid have to be stood upright.

The typical agent’s set whether by SIS (MI6) or designed by the prodigious John Brown of SOE (like his Type 3 MkII) were all carried in attaché cases and because of the need for a transformer remained relatively bulky and heavy.

Here, Hans Bonnesen demonstrates the brilliance of Duus Hansen’s ‘Telephone Book’ - light enough to carry *inside* a brief case! It measured 29 x 19 x 6.5cm (**approx. 11.5 x 7.5 x 2.5 inches**) and weighed in at a little over 1.9kgs (about 4lbs) excluding headphones and Morse key.



It did not require a transformer and the set was slimmer than any SOE or SIS sets simply because Duus Hansen set the valves on their side - and not vertically as required in ours. This may require more explanation and if you will forgive me - I will set out the brilliance of Duus Hansen’s design in a short - technical passage here. However, how he worked using Phillips new valves - widely available in occupied Denmark - is of historic importance demonstrating the relative freedom that existed in Denmark - until late 1943.

On October 1st 1943 - Adolph Hitler ordered Danish Jews to be arrested and deported. Despite great personal risk, the Danish resistance movement with the assistance of many ordinary Danish citizens, managed to evacuate 7,220 of Denmark's 7,800 Jews plus 686 non-Jewish spouses, by sea to nearby neutral Sweden. From then on, the treatment of the Danish population became similar in many ways to that in other German occupied countries.



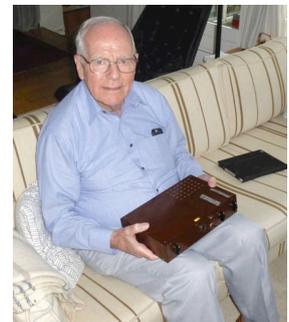
The picture is of a Danish fishing boat being loaded with Jewish refugees from Denmark being taken to Sweden and safety.

In June 1943 Duus Hansen made a clandestine visit to the Scandinavian SOE/SIS headquarters in Stockholm. Whilst there he was told about the wireless stations in England where powerful transmitters, advanced receivers and special antenna were installed. From this he concluded a quite simple wireless set would suffice for perfect Morse contact to be established between Denmark and England.

During the earlier days, those interested could still buy trade magazines such as that issued by Phillips of Eindhoven in January 1942. In this they introduced their new 'U' Series of all-glass wireless valves for use in modern receivers and as power amplifier valves. From their specification he conceived the overall concept of the 'Telephone Book' based on the so-called Universal design - the AC/DC concept.

I should explain that most of Denmark's electricity at the time was DC - 'Direct current' whereas AC - 'Alternating current' was the norm over much of Europe. AND, all of the sets made by us at MI6 (Section VIII) and by SOE - were basically made for use with AC current. Simply useless over most of Denmark.

Furthermore, linked up in series the seven valves of the telephone book could be connected directly to a 220 Volt supply thereby making the use of a transformer unnecessary. That brought a very considerable saving both in weight and bulk - compared to the sets being manufactured in England.



Left to right: The underside of the set - then the set with the valves outside and finally me - holding Hans replica showing just how small it is due to the valves being inside and being no need for a transformer.

You may well ask if overheating might be a problem because of it being an enclosed case with so much packed inside a small space? *Yes!* is the answer. However, it would indeed be a foolish agent who used it for more than a few minutes due to the German DF vans that existed. Fortunately, the numbers of DF vans in Denmark were far fewer than those in France, Italy and Yugoslavia for example. More technical 'bits' about heating will follow later. Clearly, I shall have to produce a more technical paper for the many wireless enthusiasts among the SCU-Newsletter readers and that will follow shortly.

In August, I travelled to Copenhagen and found Hans Bonnesen to be a mine of information - both on the technical and the historical aspects of the Danish resistance. I spent several happy days in the company of Hans and his charming wife Kirsten.

2. The Next RSS/SCU Annual meeting - April 2018.

The organisers have invited Hans to attend and talk to us next year. He has accepted and will bring his replica of the 'Telephone Book' with him. Hans had earlier met John Brown of SOE, Pat Hawker and other wireless luminaries in World War II. As you know, these RSS/SCU meetings for many years were held at Bletchley Park. However, it seems the Bletchley Park Trust *still* do not understand our vital connection with 'Codebreaking' - so we found ourselves as welcome guests of the nearby National Museum of Computing (TNMOC). It is - amongst other things - the home of Colossus.

Rumour has it that the Bletchley Park Trust are planning - at last - to have displays demonstrating the utilisation of ULTRA and particularly on and after 'D-Day'! There can be no disagreement that ULTRA came into its own in that enormous operation. It was easily the biggest sea and land assault ever mounted. But how were the Army Commanders kept informed of the latest intelligence gleaned via the 'Y' Service the Codebreakers and the resulting ULTRA disseminated? It went via landline to Windy Ridge in nearby Whaddon Village and then by Morse to MI6 wireless vehicles - right in the heart of our Army Commander's HQs. Fred. W. Winterbotham named them 'Signals Liaison Units' - SLUs.

Is it possible that - finally- Bletchley Park will want to reproduce one of the Vehicles??? I must be one of the last to have worked on them at Whaddon Hall. We could build a replica of the one used by the British General Dempsey (21st Army Group). But there can be no disagreement that the most famous Army Commander in the field was **General George Patton** Commander the 3rd US Army. I am standing beside a US Army Dodge Ambulance used as an SLU by Patton in one of the rare occasions one was seen at BP!



3. Why is all this important to Bletchley Park historians?

When the Bletchley Park Trust finally get around to acknowledging that there were others concerned with creating the success of the code breakers - they might discover that so much of the intelligence they received via wireless ('Y' Service) originated with agents - often in danger. Therefore, this is the BP story right at the coalface! Whether the information came from SIS agents, the 'Y' Service monitoring Enigma traffic, Voluntary interceptors (VI's) of the RSS and SCU3 listening to the Abwehr, or SOE agents - much of it ended up being sent to Bletchley Park and its code breakers.

4. My apologies for the long gap since SCU-Newsletter 1-17.

This is easily the longest gap since I started these Newsletters back in 1997. However, having written about the comparative dimension/weights of our wireless sets in 1-17, I felt it right to research the work (*the brilliant work*) of Duus Hansen in Denmark during World War II. I owe a great deal to Hans Bonnesen for his help and for checking the details of this SCU-Newsletter. For those who missed - or have forgotten - I have also attached a copy of SCU-Newsletter 1-17.

The more you read about Bletchley Park and 'Codebreaking' - the more you come to realise how much of its success actually depended upon Wireless.

Whilst not overlooking the part played by the Allied and Russian armed forces -
and with my apologies to the **Sun Newspaper-**

'Codebreaking' - the constant theme of the Bletchley Park Museum -
did not win the war on its own. **It was 'Codebreaking with Wireless' - wot won it!**

With my warm regards and best wishes,
Geoffrey
Richmond - Monday, August 28, 2017