



e-DEFENCE ELECTRONICS NEWSLETTER

The e-NEWSLETTER OF THE DEFENCE ELECTRONICS HISTORY SOCIETY
No 54: January 2017

INTO THE FUTURE – HAPPY NEW YEAR

2017 opens above with an impression of naval electronics ‘life on the cyberwave’, produced by DCNS, and showing just how much life at sea depends on electronics of all kinds – not forgetting, of course, the power systems, as the UK’s *Daring* class warships have found!

We open with a reminder that an extra **Secret Communications** event has been added to the Arthur Bauer/CryptoMuseum sequence, so, no excuses, your last chance – **January 14th, Duivendrecht, Amsterdam**; BE THERE, as your Editor will be! We have three other important diary dates; the first is January 23rd at the **Sheffield Industrial Museum** at Kelham Island, when the new **South Yorkshire Branch of the Newcomen Society** opens with **Deborah Jaffe** talking on **Frank Hornby and mechanical toys - Britain, Germany and the USA, 1880 - 1950**, covering Hornby train sets, Dinky toys, and that foundation of half the world’s early calculators, Meccano! The second is **January 26/27th**, the 26th being the unveiling by the **IEEE** of a plaque at **22 Frith Street in London’s Soho** to **John Logie Baird** and his work on early television, and the 27th a most interesting conference on the subject at the **Royal Institution, 21 Albemarle Street**; see below for more details; booking is via Eventbrite. Third, a “Save the Date” for your diaries; **12th May**, when **Cryptos** are hosting a major Intelligence event in London, details of which will follow in our February issue – but for now, **SAVE THE DATE, 12 MAY!**

In this New Year issue, we first present **Mike Diprose’s** pictorial report of **Arthur Bauer and the Cryptomuseum’s Secret Communications** third event at Duivendrecht. **Greg Howard** has most kindly contributed an advance copy of his excellent article on the “**earliest drone**” – please respect his copyright. This is followed by information on **Bawdsey Radar Trust’s YouTube 2016 retrospective**, and - what New Year would be complete without a peek at the future? - a look at a series planned for 2017’s *eDEN*, describing the **ground vehicles carrying defence electronics** of various types. We next consider the Fleet Air Arm beacon receiver R1147, and a query about its reworked variant the **R1147B** – does anyone have a circuit of the ‘B’ please? We then turn to **GEC**, and look first at an ELINT flight of 1941 with one of its receivers, followed by a file record of the resurfacing at an Army demonstration of **GEC’s 25cm radar**, originally commissioned by Bowen as an AI in 1940. The next two items were triggered by **Prof Hugh Griffiths’** historical researches – a look at the WW1 service of **A P Rowe**, and at the career of the magnificently-named radar pioneer **Labouchère Hillyer Bainbridge-Bell**. **Mike Dean** has, as ever, been busy, and unearthed an Admiralty report on the **Seehund German infra-red telescope for naval signalling**, while, to take us back to the earliest days of British radar, we print a 1970s personal account by the last Atomic Weapons Superintendent of **Orfordness** on how he viewed the site and its history at that date. We then consider how a visiting team from the **Army** led by **John Cockcroft** viewed the work being carried

out at **STC** in 1940, and our member **Aryeh Ben-Ami** provides a small memento of the Army's listening site at **Sarafand**. Then we look across the Atlantic to our US friends' experience with **echo boxes** in 1945 – note the article's tales of the echo boxes' precursors, empty oil drums, being tuned to frequency by denting the sides! **Thales** announces both advances in HF communications and sales of IFF sets and **Tailpiece** closes Part I with a look at the aerial arrays of the **USS Yorktown** in early 1945 – a staggering difference from 1941!

The observant reader will have guessed that, as December's issue was in large part devoted to the RAF, this issue seeks to redress the balance by looking at the work carried out by Navy, Fleet Air Arm, and Army, together with the RAF 'on the ground'. Part II is therefore almost entirely devoted to the 1940 inception and deliberations of the **RDF Applications Committee of the Ministry of Supply** (for which read 'Army'), chaired by **Appleton** and with **Cockcroft** as a leading light. Fittingly, in the month of the Baird plaque unveiling, **Tailpiece II** shows a previously less-regarded article in October 1943's *Empire News* on **Baird's Noctovision** invention, together with official discussion on his having demonstrated it to the Germans pre-WW2!

A delight of DEHS is that there is always a good flow of material from members, and to keep this issue to a manageable size, I am holding over (again!) articles on the **Antikythera Mechanism**; on the newly opened manufacture of **Nixie tubes** via John Kaesehagen; by **Grahame Fraser** on **early meteor radar astronomy in the UK and New Zealand**; on **APQ-7 Eagle radar** via **Aryeh Ben-Ami** and **Mike Dean**; and further work on the origin of the **CV valve Committee**.

As always, suggestions for improvements, offers of articles and all general comments to me at philjudkins@btinternet.com or info@dehs.org.uk.

Dr. Phil Judkins, DEHS Chairman.

INDEX

Editorial: Into the Future – Happy 2017!	1
Index	3
2017 Ops Board: Secret Communications last chance! – January 14th; 23rd January Newcomen Society at Sheffield; 26/27th January IEEE Baird Plaque and Conference: May 12th CRYPTOS Intelligence event	4
<i>Secret Communications Report Dr Mike Diprose</i>	5
<i>“A Machine Has Flown” – The First Drone? Greg Howard</i>	13
Bawdsey Radar YouTube; units for Tatjana Joëlle van Vark's H2S/NBS rebuild	20
A Peep into the Future: 2017 Series on Ground Electronics Vehicles	20
R 1147 and a 'B' Mystery! <i>via Andy Young</i>	21
GEC Intercept Receiver Flights <i>thanks to Chris Cooper</i>	28
Whatever happened to the GEC 25cm AI radar?	32
A P Rowe WW1 Service <i>via Prof Hugh Griffiths</i>	37

L H Bainbridge-Bell <i>via Prof Hugh Griffiths</i>	38
Seehund Infra-red Telescope for Naval Signalling <i>via Mike Dean</i>	39
Orfordness L Spray/ AWRE News	47
STC: The Army Visit	51
An Invitation to Sarafand <i>via Aryeh Ben-Ami</i>	53
Echo Boxes <i>CIC Magazine February 1945</i>	54
Thales: Salamandre, and IFF	57
DEHS Publications	59
Tailpiece: USS Yorktown Antennae <i>CIC Magazine February 1945</i>	60
Part II: Introduction: <i>Phil Judkins</i>	61
British Army RDF Committee	62
Tailpiece 2: Baird and the 'Noctovisor' <i>Empire News 1943 via Mike Dean</i>	100