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# 2012 Visit to UK



**Adam Farson VA7OJ**

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# Dates & Places



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- I spent September 2012 in the UK.
  - Places visited:
    1. Bournemouth
    2. Salisbury & Royal Signals Museum
    3. Jersey (Channel Islands)
    4. London
    5. Bletchley Park & Nat'l Museum of Computing
    6. Chester

# Bournemouth



- Coastal town, pop. 183 000, near Poole and Portsmouth (Royal Navy HQ).
- We lived there in 1945; this was my first return visit since WW2. I still recognised the town centre & many landmarks.
- One of my earliest memories there was of a soldier guarding the beach letting me speak to his colleague on the field telephone.



# The Square, Bournemouth: the centre of town



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# The Gardens

*public park just off The Square*



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# Bournemouth Arcade:

*a listed Victorian site, nicely restored*



# St. Peter's Church & Victorian arch at Old Town entrance



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# Typical beachfront homes: *I remember them from the war years!*



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# Bournemouth Pier

*on a gorgeous day, looking towards beach*



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# Boscombe Beach & Pier

*Boscombe is a suburb of Bournemouth*



# Sign in public loo on beach



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# Salisbury



- Salisbury is a mediaeval cathedral city in the English county of Wiltshire.
- It lies 14km south of the famous prehistoric stone circle at Stonehenge, which stands on the grassland of Salisbury Plain.
- The city's ornate 13th-century cathedral has a 123m spire, a working 14th-century clock and an *original* copy of the Magna Carta, a key constitutional document from 1215 A.D.
- Magna Carta is the foundation of the English system of constitutional government.
- Salisbury Cathedral was a major ecclesiastical centre in the Middle Ages.

# Salisbury Cathedral

*viewed from the east*



■ *Photo: Antony McCallum.*

# View of main nave & choir

*134m long*



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# Side chapel & clerestory



# Magna Carta:

*one of 4 extant copies is in Salisbury*



- A restorer is examining the original document. *Photo: Salisbury Cathedral.*



# Royal Signals Museum



- The Royal Signals Museum is a military museum based at the Blandford Camp (Royal Signals HQ) army base northwest of the town of Blandford Forum in Dorset, England.
- The museum is the United Kingdom national museum of army communications. It presents the role of communications in wars and military campaigns over the last 150 years.
- Technologies exhibit range from fire beacons and semaphore, through wire and radio voice/data communications to the most modern IT.
- Some exhibits relate to radio counter-measures (e.g. Northern Ireland and Afghanistan).
- Some crypto items are on display, but Bletchley Park is the best place to view cryptosystems and cryptanalysis.

# I got to turn the knobs!

*Comms shelter with multi-channel VHF radio gear*



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# WW2 “Wireless Pram” *deployed on D-Day Normandy beaches*



*The “wireless pram” carried a No. 22 set (2W, 2 – 8 MHz) with vibrator PSU and batteries. A RSigs radio operator earned the George Medal pushing one of these beasts around between landing zones under withering German fire. (He survived!) Note antenna on top.*

# Wireless Set No. 62

*1.6-10 MHz, 6W. Replaced WW2 19 set.*



# Taliban VHF handhelds

*captured by British Army in Afghanistan*



# ECM deployed in N. Ireland

## *Portable TX used to jam IRA RC bomb channels*



This is a 50W portable transmitter as used by RSigs to disrupt IRA remote-controlled bomb attacks by jamming the VHF radio channels used to fire the bombs.

The bombers used an FM signal modulated by DTMF codes to set off their devices. FM was easily jammed by means of a higher-powered transmitter.

RSigs used this equipment also for safe disposal by detonating the device once the area around it had been cleared.

# RSigs radio vehicle, 1970's *fitted with 'Larkspur' radio sets*



*The operator is wearing Arctic gear. C42 set (30 – 70 MHz) on left, C11/R210 HF set on right.*

# WW2 'Typex' crypto machine

*The Germans never broke 'Typex'!*





# Jersey (Channel Islands)



- Jersey is the largest of the Channel Islands, between England and France.
- An independent, English-speaking territory with a mix of British and French cultures, it is known for its beaches, walking trails along cliffs and inland valleys, as well as its defensive castles. Some of these fortifications were built during the German occupation.
- The Jersey War Tunnel complex, in a former hospital excavated by slave labor, documents the island's 5-year German occupation during WWII. Several other museums include the Museum of Jersey and the Maritime Museum in St. Helier, the island capital.
- St. Helier is beautifully situated between its harbour and *Le Mont de la Ville* (143m). The *Vieille-Ville* (old town) incorporates many fine listed buildings in excellent condition.

# La Corbière

*The extreme south-west point of Jersey*



# La Corbière Lighthouse



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# La Corbière Radio Tower

*formerly a German WW2 fortification*



The German occupiers built this range-finding tower during WW2. In 1976, the glazed control tower was added and VHF radios fitted for comms with shipping in the English Channel.

In 2004 this operation ended and the structure was converted into a self-catered holiday rental apartment house.

# St. Helier Old Town



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# Feel right at home?



# St. Helier harbourfront *and fortress on cliff above town*



# St. Aubin Town Hall

*up the coast from St. Helier*



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# St. Aubin Harbour

*The tide is out*



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# German Underground Hospital Entrance

*(Photo: Bob Embleton)*



# German Underground Hospital O.R. & Tunnel View



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# German Military Museum

*St. Ouen – housed in former bunker*



# My friend Lawrence GJ3RAX (I.)

## *Gunsights & rangefinders (r.)*



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# Comms operator

*Note Enigma machine on desk*



# Jersey Amateur Radio Society

*Clubhouse is a former WW2 'Funkurm'*



# Jersey A.R.S. Station

*One of 3 operating positions*





# London

## *Houses of Parliament & Westminster Bridge*



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# Oxford Circus

## *West End hub*



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# Trafalgar Square

*with National Gallery & St. Martin-in-the-Fields*



# Covent Garden Market



# West End pub scene



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# Thomson Reuters House, Canary Wharf



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# Canary Wharf Mall



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# Victoria & Albert Museum: *a ceremonial room on display*



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# Westminster Cathedral

*Neo-Byzantine Catholic Cathedral*



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# Science Museum, South Kensington – *main hall*



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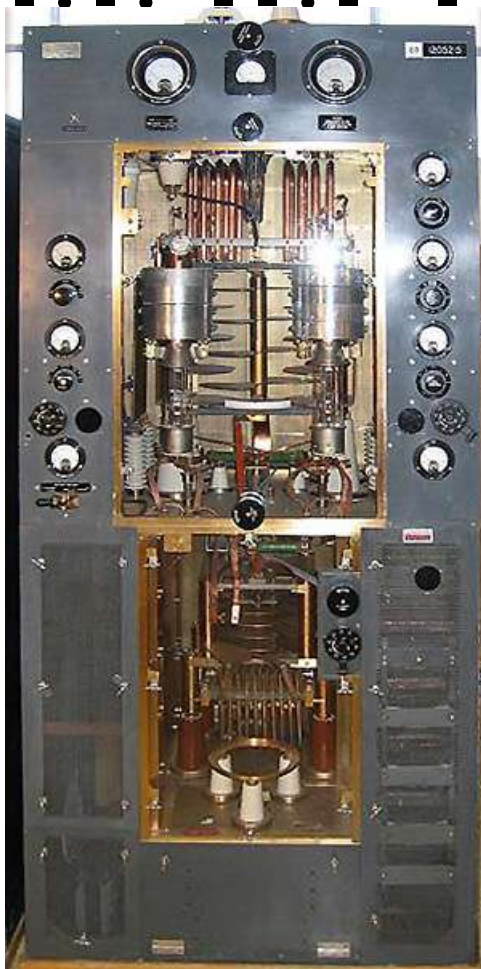
# ERNIE 1, an early computer

*Used for Premium Bonds drawings 1958-1972. Based on Colossus ; designed by Tommy Flowers & Harry Fensom.*



# Marconi SWB8 HF transmitter

*3.5 kW, 3-22 MHz, all-mode. PA on right.*



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# Jet engine lab prototype

*(Original Frank Whittle radial-flow design)*



# Early programmable cloth loom *built by Toyoda, precursor of Toyota Motor Co.*



# Bletchley Park



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## ■ We will visit:

1. Colossus, the world's 1<sup>st</sup> electronic computer
2. The Bombe, which helped decrypt Enigma
3. The Diplomatic Wireless Hut (radios which captured the raw Enigma traffic)
4. RSGB National Radio Centre
5. National Museum of Computing

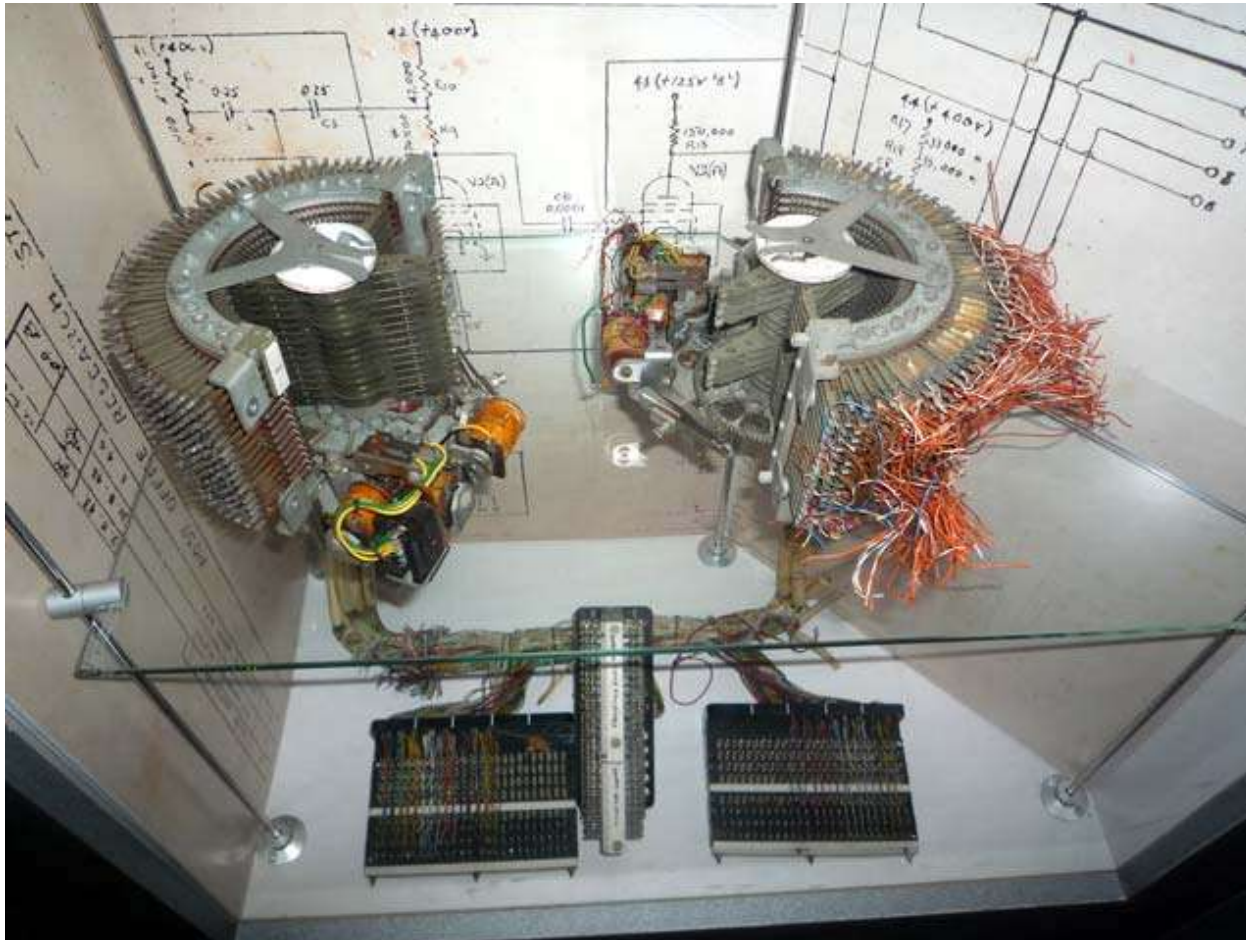
# Colossus – working demo model

*This is the machine which broke the German 'Lorenz' cryptosystem. It uses vacuum tube & relay logic, with high-speed paper tape input.*





# Motor-switches used in Colossus System was designed by Post Office engineers & based largely on 1940's electromechanical telephone exchange technology



# Lorenz (l.) & 4-rotor Enigma (r.) *used by German military throughout WW2*



# Diplomatic Wireless Hut

*part of the large WW2 radio collection*



# **RSGB National Radio Centre**

## ***VA70J at the GB3RS operating position***

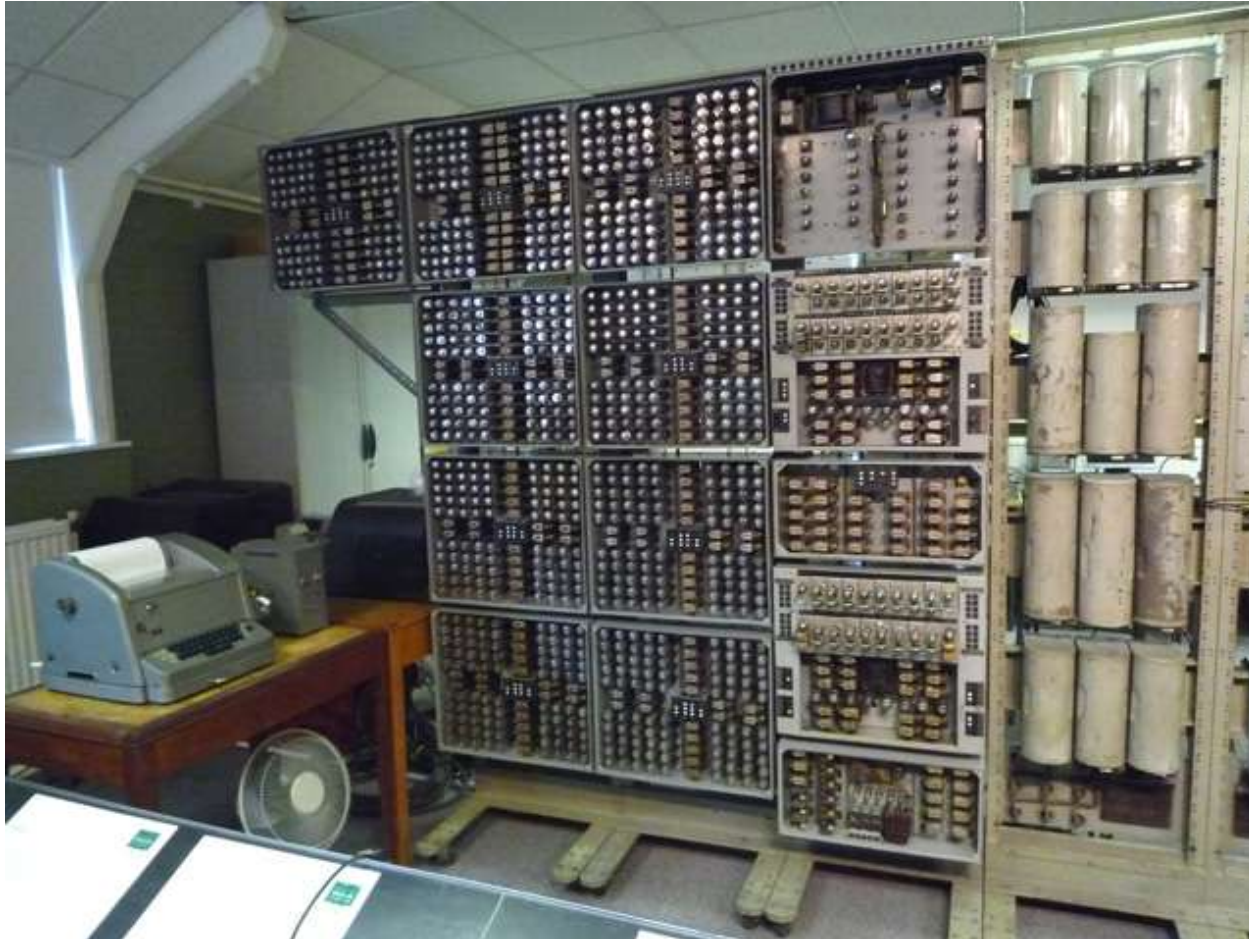


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# National Museum of Computing: Early relay/tube computer (1950's) from the *Colossus design team*



# Elliott 903 computer (1965)

*18-bit CPU, 8-64 kword core memory, £12 – 90K*



# Data Dynamics computer (1970s)

*1960's, 8-16 Kword core, restored & working*



# Start 'em off early!

*BBC Micro computers (1980s) by Acorn Ltd.*





# Chester

*mediaeval half-timbered houses in centre*



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# Chester: 'Pied Bull' Pub

*My friends Brian GØGSF & Pam*



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# Chester Town Clock



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# Thanks for watching!



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- For further study, please Google the relevant keywords.
  - Most of the themes covered in this presentation have Wikipedia entries.