

Wireless Heritage SIG
'RF testing – from the archives'
Thursday 19 February
Sponsored by **COBHAM**

The Wireless Heritage SIG is championed by **Stirling Essex** of **Espansivo**, **Steve Haseldine** of **Deaf Alerter**, **Andy Sutton** of **EE**, **Geoff Varrall** of **RTT Online** and **Nigel Wall** of **Climate Associates**

Venue: **Novotel Stevenage, Knebworth Park, Stevenage, Hertfordshire, SG1 2AX**

AGENDA

-
- 18:00** Registration and networking with refreshments
-
- 18:40** Introduction to Wireless Heritage SIG from **Stirling Essex, Espansivo**
-
- 18:45** Welcome from event sponsor, **Speaker tbc, Cobham Wireless**
-
- 19:00** Session chaired by SIG Champion, **Steve Haseldine, Deaf Alerter**
'Signal generation from 1930 to 1990, the analogue years of transmitter and receiver testing', Tony Rudkin, former Product Manager, Marconi Instruments
The talk will cover the developments in signal generators from the earliest commercial units of the 1930s through to the microprocessor controlled synthesizers of the 1990s. With the use of archive photographs it will trace the advances in design from the early reliance on mechanical engineering solutions based on vacuum tube technology, through the introduction of solid state components to the greater freedom afforded by programmable equipment. Engineering innovations in response to changing measurement and customer requirements will be highlighted and example equipment from the MI museum will be on display.
-
- 19:25** Q&A
-
- 19:35** Session chaired by SIG Champion, **Andy Sutton, EE**
'Signal analysis from 1930 to 1990, the analogue years of transmitter and receiver testing', Nigel Adams, Project Manager – Systems, Cobham Wireless
This presentation addresses the growing need for accuracy and capable measuring equipment that manufacturers found themselves requiring in the early years that led up to the Second World War. Prior to this, many of the equipment makers had their own in house department to provide their equipment needs. Around this time were the emergence of specialist makers of bespoke test equipment who could improve on the technical capability and compete with the internal cost of such activities. Similar to the talk on Signal Generators, this presentation will focus on standout designs of the time and the needs of the industry as technical challenges were overcome. Some example equipment from the MI museum will be on display.
-
- 20:00** Q&A
-
- 20:10** Session chaired by SIG Champion, **Stirling Essex, Espansivo**
'Paradigm shifts in RF testing beyond LTE: Lessons learnt and challenges ahead', Li-Ke Huang, Research & Technology Director, Cobham Wireless
Cobham Wireless has been the market leading network infrastructure test solution provider since 3G, LTE to 4G. We are the thought-leader in enabling development tools and test technologies for wireless technology researches and advancements. We will share our experiences, observations and thoughts on the paradigm shifts and concept changes in the testing of the generation defining RF and wireless technologies beyond 4G towards 5G.
-
- 20:35** Q&A
-
- 20:45** Panel session with all speakers chaired by SIG Champion, **Geoff Varrall, RTT Online**
Opportunity to view exhibits
-
- 21:30** **Event closes**
-

With the permission of the speakers, presentations will be loaded to the CW website on the day following the event

Profile of organisers

About Cobham Wireless

Cobham Wireless is a global leader in test and measurement instrumentation, with a range of products that includes: stand-alone and modular test instruments for RF, cellular communications, and wireless networking; and ATE systems.

Cobham Wireless's LTE market-leading product line includes a complete range of end-to-end test systems that cover R&D, performance, service, and manufacturing test applications for LTE-A TDD and FDD network equipment and terminals. Cobham Wireless is also a founding member of the 5GIC (5G Innovation Centre) technology research program led by the University of Surrey in the UK.

About Cobham

Cobham protects lives and livelihoods with its differentiated technology and know-how, operating with a deep insight into customer needs and agility. The Group offers an innovative range of technologies and services to solve challenging problems in harsh environments across commercial, defence and security markets, from deep space to the depths of the ocean, specialising in meeting the growing demand for data, connectivity and bandwidth.

Employing more than 12,000 people on five continents, the Group has customers and partners in over 100 countries, with market leading positions in: wireless, audio, video and data communications, including satellite communications; defence electronics; air-to-air refuelling; aviation services; life support and mission equipment. For more information please visit www.cobham.com

Cambridge Wireless (CW)

CW is the leading international community for companies involved in the research, development and application of wireless and mobile, internet, semiconductor and software technologies. With 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry. CW's 19 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises the annual Future of Wireless International Conference and Discovering Start-Ups competition along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. For more information, please visit www.cambridgewireless.co.uk

Profile of SIG Champions

Stirling Essex, Espansivo

Stirling Essex has over 25 years of product development, product management, strategic marketing and business development experience in many areas of wireless technology, and has been intimately involved in the development of test systems for GSM, CDMA (IS-95), 3G (W-CDMA) and LTE. He founded Espansivo, a technology consultancy specialising in helping organisations with their technology, product and business decisions, in 2005. Stirling was previously a co-champion of the Cambridge Wireless Future Wide Area Wireless Special Interest Group and has been a member of the Cambridge Wireless Board since 2004. For more information please visit: www.espansivo.com

Steve Haseldine, Deaf Alerter

Steve Haseldine FIMC FRSA is the Chairman of three companies, Deaf Alerter plc, Electronic Communications Ltd and Evets Communications Ltd. Businesses that design and manufacture in-building, radio-based, emergency communication systems; software defined radio solutions and operate PMR, FM Broadcast and Cellular transmission sites.

His connection with radio started over 50 years ago as a schoolboy, when he became a licensed radio amateur, an interest which has influenced much of his professional career. Sponsored as a Computer Science student focussed on software development with Rolls Royce, he subsequently worked for GEC Telecommunications before becoming a Management Consultant with Price Waterhouse. Starting his own software house and radio communication businesses in 1979 he has found it rewarding that his two passions of software and radio have evolved into an almost common technology. He has seen his own companies being judged the Midlands Best Small Business of 2013 and the leading Company for Innovation in both 2012 and 2013.

As well as remaining an active radio amateur, Steve has now amassed one of the largest personal collections of communication radio equipment in the UK, with over 3000 receivers, transmitters and ancillary equipment, the vast majority of which are fully operational. The collection spans from the early spark transmitters to the latest Software Defined Radios. For more information please visit: www.deaf-alerter.com

Andy Sutton, EE and University of Salford

Professor Andy Sutton is EE's Principal Network Architect with responsibilities for RAN architecture evolution and mobile backhaul strategy and architecture. He has over 25 years of experience within the telecommunications industry, mainly in radio access, transmission and transport network strategy, architecture and design. Andy worked for Mercury Communications Ltd on fixed network transmission, switching and synchronisation before joining the cellular industry in 1993. During the last 20 years Andy has worked for Orange, France Telecom Group, H3G and EE. Andy is a Visiting Professor with the department of Computing, Science and Engineering at the University of Salford. He is a Chartered Engineer, Fellow of the Institution of Engineering and Technology, Fellow of the British Computer Society, Member of the Institute of Telecommunications Professionals and Member of the Telecommunications Heritage Group. Andy has a deep interest in all aspects of telecommunications history and heritage with a particular focus on cellular systems. For more information please visit: www.ee.com

Geoff Varrall, RTT Online

Geoff Varrall is a founder Director of RTT Programmes, a company specializing in providing technology and engineering consultancy to the wireless industry. A co-author of four books on telecommunications, Geoff has recently completed a series of studies for the GSM Association on the RF Cost economics of handsets and is widely respected for his ability to combine a broad understanding of industry technical issues with economic and business analysis. RTT has been running training workshops and strategic seminars and conferences in Europe for over 20 years. Part of his involvement with Cambridge Wireless is to help facilitate the development of new member services including workshops and conferences that can provide the basis for information exchange and business development opportunities for Cambridge Wireless members. He is presently working on developing a Wireless Heritage Special Interest Group. The role of the Wireless Heritage Group is to provide a forum in which the very substantial historic role of Cambridge in the wireless industry over the past 70 years can be promoted internationally. For more information please visit: www.rtonline.com and www.makingtelecomswork.com

Nigel Wall, Climate Associates

Nigel Wall has been an independent consultant since 2001, with a focus on Intelligent Transport Systems – "connected cars". Prior to this he held a number of key roles within BT, including leading mobile data research. He provides advice to a variety public and private sector clients, and has been involved directly in several collaborative R&D projects, worked on communications standards, is the Chair of the ITS UK Communications SIG and acts as a Technology Translator for the ICT Knowledge Transfer Network. For more information please visit: www.climate-associates.com

Profile of speakers

Nigel Adams, Project Manager – Systems, Cobham Wireless

Nigel joined Marconi Instruments as an apprentice some 40 years ago and has remained with the company (later IFR and Aeroflex) through its changes in ownership to the present day with Cobham. He has held a wide range of roles within the instruments and ATE elements of the business including engineering, manufacturing, service (both internal and externally), sales and, currently, project management. His experience ranges across all aspects of the company product ranges alongside competitor products (through the service operations). Nigel has published a number of articles for industry magazines and special interest forums on a variety of topics, including one of his passions for restoration of vintage radios and early Marconi moisture meters.

Li-Ke Huang, Research & Technology Director, Cobham Wireless

Li-Ke Huang is the Research & Technology Director at Cobham Wireless responsible for product concept and core technology innovations. He specializes in leading early technology research programs for the TM500 network tester family, which is the industry standard wireless network tester used by network operators and infrastructure vendors worldwide.

Tony Rudkin, former Product Manager, Marconi Instruments

Prior to his retirement in 2009, Tony worked for Marconi Instruments (later IFR and Aeroflex) for 42 years in a wide variety of roles covering engineering, marketing, sales, service and management. Throughout most of this time he was actively involved in the MI signal generator range and was responsible for defining and launching many highly successful products. He is the editor of a book on test equipment and has published many articles. He has given lectures and presentations at conferences around the world.