
Marconi
at the Museum
Locating the Logo

Foreword

I worked for Marconi Radar Systems Ltd from mid-1970 for about thirteen years, a very short time by comparison with so many of my colleagues who made the company their principal career. It was even shorter by comparison with those whose life's work was radar, starting in the military during the Second World War then moving into the civilian world.

I was an adolescent aspiring to adulthood during much of the Cold War, and I had the good fortune to find secure employment with MRSL for a formative period of my life. I remember my years working for the company with great affection. They were days of certainty: what we were doing forever felt right, working for a self-assured organisation with great breadth and depth in capabilities, always to achieve the highest standards of quality in the national interest. Against the backdrop of the international tensions of the times, those days of clarity of purpose and a sense of belonging were amongst the most fulfilling of my working life.

Those of us, including me, who look back on our company's name with pride can only despair at its being tipped into obscurity. By the time that process started, I was lucky enough to be long gone from the scene, but those financial manoeuvres by the new management of GEC in the sad days after Lord Weinstock's reign had a very rare effect: they aligned the disbelieving and derogatory opinions of so many aghast City commentators with those of a very large community of Marconi engineers from many disciplines.

This is an attempt to gather up and document some precious memories of Marconi, before they are lost. Thanks to the efforts of the RAF Air Defence Radar Museum, and with continuing support from our successor company BAE Systems Limited, a lot of equipment produced by Marconi in general (and MRSL in particular) has been very well curated, preserved and displayed at Neatishead. But there is a clue in its name: the museum's scope is much wider than the achievements of any one named manufacturer, no matter how precious a memory.

The museum's tour guides do an excellent job around the exhibits by telling tales very much focussed on the efforts of those who have performed the actual air defence of the United Kingdom, and understandably so. Moving from the preliminaries to the Second World War, they pass via the Cold War to the present day. But by focussing on those men and women, their words pay only passing tribute to those who worked so hard to maintain the equipment in top condition, and scarcely mention those who built it all in the first place. Marconi was a major mover in that enterprise for many years, and I feel privileged to have been a part of it, no matter how slight my own contribution at Neatishead.

I focussed a visit to the museum on photographing "Anything and Everything Marconi". The photography was not a total success, but these pictures and my own rather self-indulgent commentary on them may just spark others' respectful, cheerful, and proud memories of Marconi's contribution to air defence history.

Nick Pinnock, June 2016

MRSL Employee #71047, 1970-1983

Marconi at the Museum

Locating the Logo

I visited the Royal Air Force Air Defence Radar Museum (ADRM) at Neatishead in Norfolk during April 2016, determined to photograph any equipment bearing a Marconi badge, or maybe just deserving of wearing one. The Web is home to many photographs of the place, but I wanted to assemble a small album of Marconi memories that can be viewed as one coherent set, even if others' efforts may well be more comprehensive and attractive photographically. As you'll see, however, there's many a slip 'twixt cup and shutter-click…

My own stint at Neatishead as an MRSL Field Services engineer ended over 43 years ago, and what I knew as RAF Neatishead has become a shadow of its former self. When I was there in the early 1970s, six antennas scanned the skies, but it's now just a Remote Radar Head or RRH. Those were the days of Linesman and then the Marconi-supplied Standby Local Early Warning and Control system. The SLEWC display facilities survive, and are now featured as a major museum exhibit, the "Cold War Operations Room".

Now without even a single live radar within its own boundary, the site is home to the ADRM—based in the building which everyone working on site knew as the "R30", or even the "Happidrome" if you had a stronger sense of history. Apart from the museum, there is still a small RAF contingent that looks after the needs of the operational radar at nearby RRH Trimingham. With those two exceptions the site is practically derelict, even having been offered unsuccessfully for sale on eBay a few years ago, perhaps more in desperate hope than expectation.

When navigating toward the site with a view to finding Marconi equipment it is absence that first strikes the returning visitor: What's missing? Way back in the 1970s, it was dominated by the Type 85 radar head, a product of Marconi's step-sibling AEI. It was quite close to the road, and impressively placed atop the very substantial R12 building. Turning into the museum car-park these days, it is very obvious that the Type 85 is no more—it was removed some time in 1991. The vast array of electronics and waveguide plumbing that was inside the R12 has been stripped out and the building itself is clearly no longer in the best state of repair, although it is amongst a number on the site listed as Grade II by Historic England.

The car-park does not afford a very clear view across the site, because of the intervening buildings. But it is obvious that the antennas for the standalone Cossor Secondary Surveillance Radar, the Marconi High-Speed Passive Detection system, and the twin Plessey/Decca HF200 heightfinders are long gone too.

What remains very clearly on view, especially from the lane that passes the farmland on the western side of the site, is the radar head for the Marconi Type 84. It must by now have stood there for something over 50 years, even since before Neatishead became a Master Radar Station in the mid 1960s. It is still impressive, even if it is on the far side of the site and can be approached only by special permission or by using a zoom lens. The climate has done its worst; the olive drab colour is now disfigured by years of untended exposure to the weather since its decommissioning in 1994. Curiously, memory tells me that it was painted pale blue in my time. Perhaps Anno Domini is playing tricks and I'm confusing it with the Type 85, which was certainly paler in colour if fading photographs are to be believed—there is a panel inside the ADRM recording its disassembly:

Marconi Type 84 Radar Head, c. 1967

The Old Lady Shows Her Bare Behind!

Seen from the road on the western boundary of the site, the long-since stationary Type 84 radar head permanently shows off her rear-facing reflector, physically a mirror image of that which faces forward. Except that...

...originally intended to be equipped with secondary surveillance equipment, the rear-facing section was never actually used, so the waveguide support gantry seen here projecting beneath it remained permanently empty. A forward-facing SSR antenna was fitted instead to the top of the T84 assembly, with its cylindrical omnidirectional "P2 pulse" element prominent at its right-hand end.

The roof of "the bungalow", as the guardrooms for the old underground R3 operations rooms will forever be known, can be seen just behind and to the left of the radar head.

Without being able to leave the immediate environs of the museum itself, my own photographs of the Type 84 head were limited to long shots. I found these close-ups on a website (i) devoted to the exploration of derelict buildings and installations of all sorts. Coincidentally they were taken in April 2016 too; they are reproduced here by permission. The overall impression can only be of a system built to last for decades, and that's exactly what it did, as it may well have remained viable for operation for as much as 30 years. Even now, it still looks as though it could give a cutting torch pause for thought.

The car-park area does contain one very obvious but less physically substantial reminder of Marconi history—the prototype S600 S-band radar head and cabin that was furbished for use in the Falkland Islands, later providing useful support in the Balkans conflict of the late 1990s. It was eventually donated to the ADRM by BAE Systems, whose logo appears on the information panel (ii) next to it. Moving towards the museum entrance, I missed a trick, and omitted to photograph the Type 95 mobile radar, a system which also did service in the Falklands just when its expected service life in the UK was coming to an end. My excuse for this omission is that to my uneducated eye the antenna looked a bit too "chicken-wire" to be a Marconi design, and there's good reason for that: according to Gordon Carle, a one-time RAF Fighter controller based at Saxa Vord, the American-built AN/UPS-1 seems to have had an inglorious history in UK service (iii). But kitted out with Marconi electronics instead and using the original antenna, rechristened the S259, and still lightweight enough to be transportable by a Wessex helicopter, it gave good service. So no photograph of the Marconi S259, for the moment. Hey ho, there'll be a next time.

Marconi S600 Transportable S-Band Antenna and Equipment Cabin, c. 1967

This is the prototype which, after a long sabbatical at Bushy Hill, was expeditiously rebuilt for use by the Royal Air Force in the Falkland Islands, where it served alongside an example of its L-Band sibling. When superseded there by a more modern radar it proved useful during anti-radar development trials in the Balkans, eventually returning for another long sabbatical at Bushy Hill before arriving here. For now, at least, that clever and intricate squintless feed remains as silent as the R12 building in the background.

The museum entrance is in a short succession of huts built on to the side of the bomb-hardened R30. It's confusing after such a long absence, especially since the entrance proper to the R30 is now at the other end of the building, opposite to where it used to be. And REALLY—Did we not deserve a gift shop in my day, too? After a friendly introductory chat from a guide, it's time to visit the WWII exhibition room, the first of two guided tours available.

The Chain Home transmitter, a genuine example manufactured by Metropolitan Vickers, sits there in considerable majesty. Its design was based on the components of a radio broadcast transmitter of the time, minimally changed to allow the shortest possible time in development and production. It looks extremely solidly built.

By contrast, the receiver equipment on display is a mock-up of the Cossor original. It was cleverly and painstakingly reconstructed by the museum's volunteer staff, but I suspect that its layout is not fully representative of all the detail of the real thing. But of course there were variations produced during its service life, so it may well be so. The imitation A-scope radar display is a live illustration of the technology of the time, and serves the purposes of the general museum visitor rather well. There's no mention of the Marconi-manufactured contribution to the curtain array on those CH transmitter towers, unfortunately. Standing in an impressive tableau of a WWII Air Defence Operations room, I can't help reflecting that somebody's Public Relations Department missed a trick: those arrays could have been a noteworthy site for a Marconi logo or two. Perhaps not quite in the emergency spirit of the times.

But what's this? In the same room as the CH transmitter, there's a very obvious Marconi roundel, prominent on the front door of a Type 7 radar transmitter cabinet. Unfortunately, it proved rather difficult to frame the whole system in the camera viewfinder, without disturbing the constant buzz of guided-tour parties around. (Another reason for a return visit to beckon…) This type of equipment became operational at Neatishead in early 1942, at which time the R30 building had been constructed, and its "Happidrome" was the room where Ground Control Intercept operations were conducted using the Type 7. It's rather like the CH transmitter: it looks extremely well-constructed. By then, wartime shortages must have been hitting manufacturers quite hard, so maybe all those legendary sawn-off park railings were melted down and put to some good use after all. Don Adams, once an RAF Junior Technician serving at RAF Ventnor in the 1950s (iv) gives some idea of the care with which the Type 7 electronics was engineered internally too. It seems a truly remarkable piece of kit for its time.

Marconi Type 7 Transmitter, c.1942

Leaving the WWII display area behind, there's a short period before the other guided tour featured by the museum is due to start. There's time to pause in the corridor by a large reproduction of the same picture that was used on the front cover of our own Colin Latham's "ABC of Radar…". It's the 1935 "Daventry Experiment", of course, in a picture painted by Roy Huxley, a noted aviation artist. Strangely, the artist gets no attribution for his work, neither at the ADRM nor in Colin's opus, and it does not seem to bear a signature. Apparently, amongst Roy Huxley's mainstream work (he's noted as being "semi-retired" in 2012) was the illustration of boxes for Matchbox scale models, and it also included the designs for aviation-themed commemorative plates for Royal Doulton (v).

Robert Watson-Watt, of course, gets due credit for his innovation in British radar in the same display panel, although if Colin Latham is to be believed (and who am I to doubt his word?), Watson-Watt's less-ebullient colleague Arnold Watkins should really receive a much more substantial share of the recognition. The picture shows only two men, and is thought to portray Wilkins demonstrating his experimental results to an Air Ministry observer, and neither figure is the more famous Watson-Watt. (vi)

My visit to the museum was focused on Marconi products, but it would be unfair not to emphasise just how much other Air Defence history is represented on this site. On the way to the guided tour of the Cold War Operations Room, the other themes of the building become clear. The place offers a very substantial tribute to the development of radar technology. There are klystrons and cavity magnetrons ranging in size from the enormous to the minuscule, thus underpinning the tale of the development of airborne radar. It also houses a large collection of memorabilia from the nearby RAF Coltishall, which was closed in 2006 after a distinguished history dating back to 1939. Pride of place alongside the many squadron mementoes goes to the cockpit of a SEPECAT Jaguar ground attack aircraft. For an Elliott computer buff, there is a strong link here between that aircraft cockpit and the Marconi-supplied Standby Local Early Warning and Control system that is the basis of the Cold War exhibit: every Jaguar aircraft carried an Elliott 920M computer, a very close cousin to the dual-redundant Elliott 920C machines that were the "brains" of SLEWC.

It's not just the layout of the building that is now confusing to an old hand, it's the individual rooms too. With the exception of the Cold War Operations Room, none of the rooms in the R30 building is now laid out as it was in the 1970s—perhaps an expected progression for an old war-horse now turned into a museum, but how did they also make the rooms seem smaller than my memory allows?

There's the corner office, fortunately with plenty of daylight, where the Marconi team based itself when cerebral tasks like computer programming and hardware design modification were being undertaken; it now displays radio equipment.

There's the simulator room, that used to house four special consoles with keyboards and Elliott tabular displays at which junior operations staff could pretend to be pilots and hurl computer-simulated BAC/English Electric Lightning aircraft around their virtual sky. They had four aeroplanes each in pursuit of bandits, under instruction from fighter controllers honing their skills. The room now displays equipment ranging from a very large klystron to the test engineer's once-ubiquitous AVOmeter, and unlabelled stuff that I do not recognize at all.

Most dramatic of all is the change to the "Machine Room" as we knew it; it used to house all the Marconi display driver cabinets and the Elliott data processing equipment, whereas now it's home to "History": real examples of several generations of radar display console (as the next few pages show), plus large scale models of significant radars like the Type 85. It all goes back as far as a geographical map of the CH system. There's much more, and it's an impressive historical collection but of course, without all the original SLEWC electronics, there's nothing truly representative to put realistic radar pictures and tabular information on the actual operator consoles in the Cold War Operations Room next door.

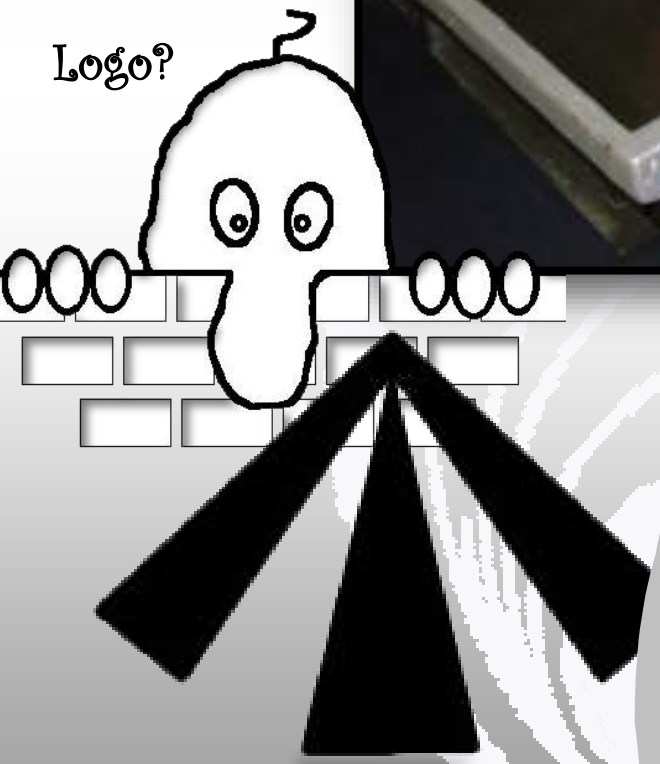
Marconi Type 64 Plan Position Indicator, c. 1950s

The design of the Type 64 PPI was truly "revolutionary", which may seem an odd description for a technique that did away with the revolving electro-mechanical coils that hitherto made the radar trace on a circular Cathode Ray Tube rotate.

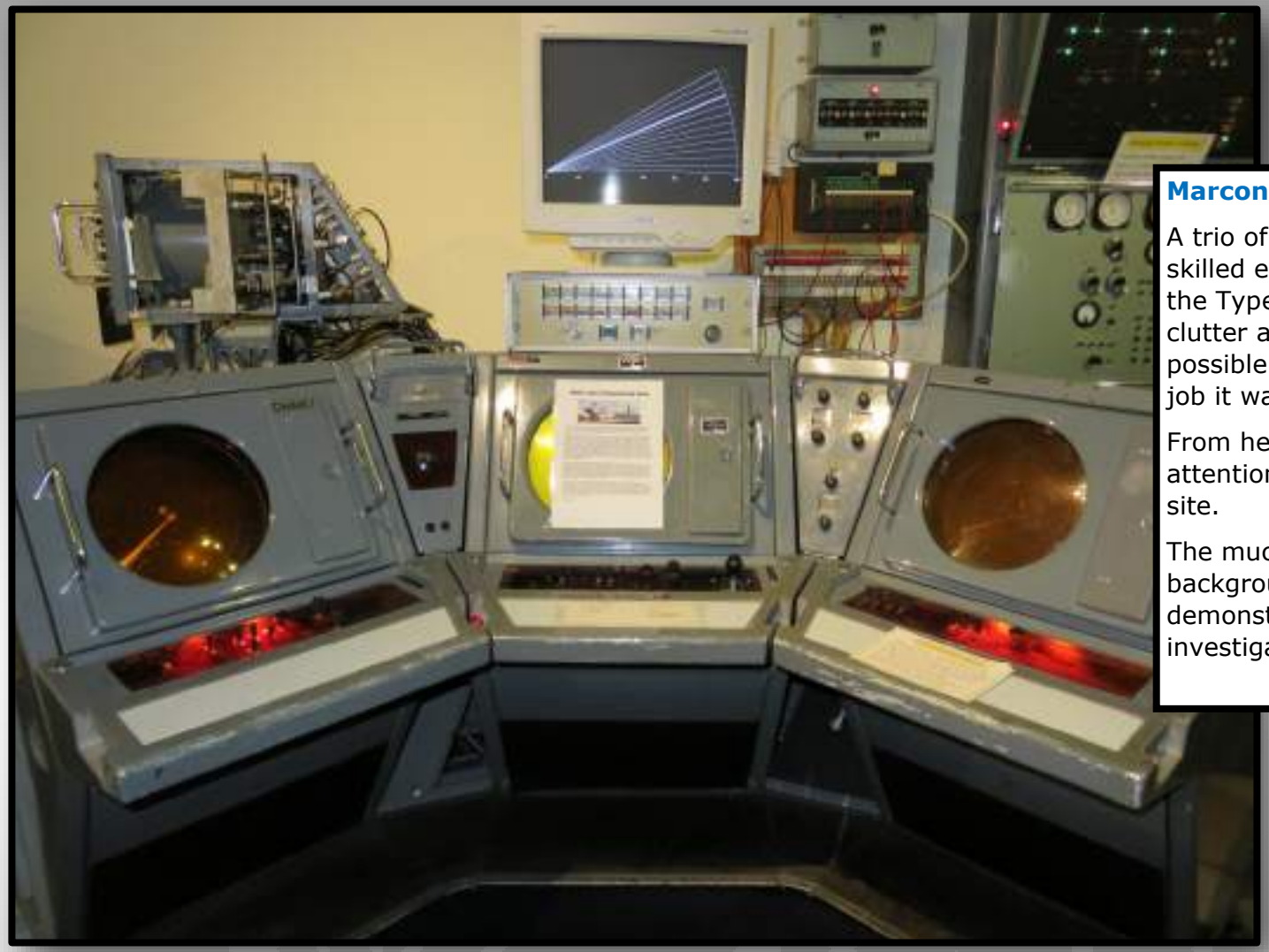
Its fixed coils used electronics to replace much that had previously been achieved mechanically. They thereby enabled the screen's travelling bright spot to be used to write identifying symbols as well as "painting" the actual radar echoes.

Development was started by Marconi in 1950, and they were manufactured in very large numbers, many under contract by the Plessey company. The Marconi Type 7 radar at Neatishead may well have been retro-fitted with Type 64 displays, although that's not specifically mentioned.

Note the burned phosphor on the screen that resulted from permanent radar echoes, typically from ground clutter. Later designs, like the SLEWC displays on the following pages, incorporated special "blanking" electronics helpful in preventing this central discolouration.



A "British Broad Arrow" (like convicts used to wear) appears here, rather than a company logo.



Marconi Type 84 Engineering Console, c. 1960s

A trio of screens like these was used by highly-skilled engineering staff to manage the operation of the Type 84 radar, optimizing its rejection of radar clutter and static targets so as to give the clearest possible picture for the Fighter Controllers whose job it was to control intercepting aircraft.

From here too, targets could be designated for attention by the nearby height-finding radars on the site.

The much more modern graphics screen in the background is the museum's own practical demonstration of height-finding technique, for investigation by intrepid visitors.

The ability of the Type 84 radar to deliver a clutter-free picture seems to have relied heavily on the skills of the engineers who managed its electronics to give peak performance. The SLEWC display consoles were fed not only with the processed version of the radar picture, both Types 84 and 85, but also with the unprocessed Type 84 "raw" version, and the one or the other could be selected for display at will. Even that degree of choice did not always seem to suit the operational staff, however, who would sometimes prefer to have the engineer-led processing switched off completely. Presumably this betrayed a lack of trust in the sophistication of the electronics and its guardians, as opposed to an explicit confidence in the acuity of the human operators' eyeballs. Students of ophthalmology may have challenged that preference. What price human eyeballs now, when so much radar information is displayed in a totally-processed synthetic form?

Marconi SLEWC Console: S3002 Labelled Plan Displays and Tabular Displays, c. 1970

These LPDs and "tabs" are part of the Cold War Operations Room next door to the History room, but shown here to maintain a chronological sequence of photos.

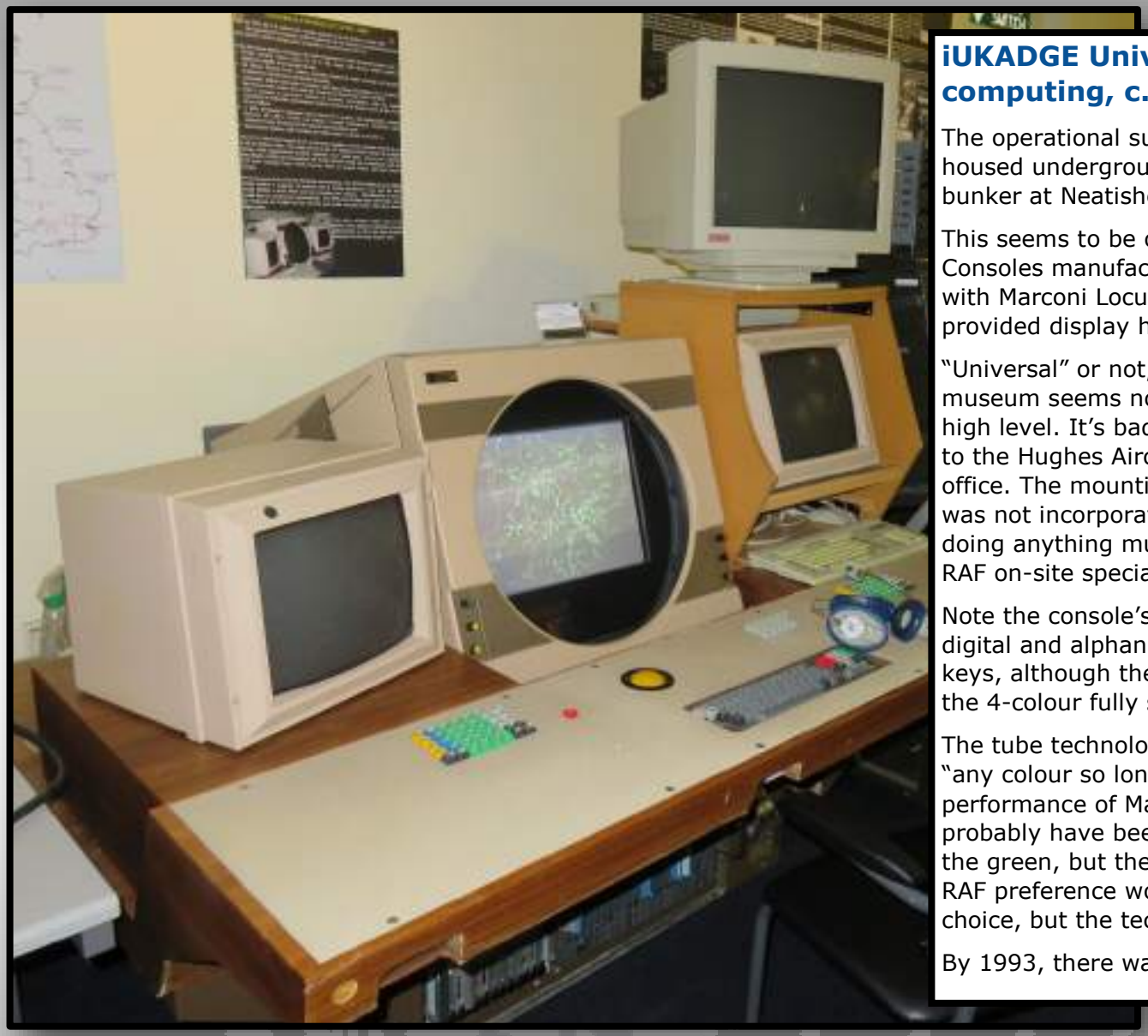
Amongst many others at the museum seeming to show a rotating radar sweep, all these consoles have been given what might be described as a "Cathode Ray Tubectomy". This is for safety reasons if the "safe CRT" Dymo-tape label above the annular azimuth ring is to be believed. Or maybe it is because there's now none of the original drive electronics available to give a more realistic sweeping trace on a real, original, CRT.

Note the Elliott Decoder Display Control Unit above the Marconi Tabular Display, and the very limited push-button keyboard with its illuminated keys.

That yellow rolling ball, with its comforting inertial feel of quality, was an exceptional pointing tool in experienced hands. Contemporary, maybe scurrilous, rumour had it that even the mighty Marconi organisation had been forced to abandon a long and frustrating struggle to make a truly spherical ball from phenolic resin—but a manufacturer of snooker balls was very happy to oblige instead.

At last: Two distinguished logos side by side, with that from the Elliott SSR Decoder Display Control Unit looking a little the worse for wear.

The design of this 1960s/70s Marconi logo seems unchanged from the 1940s version on the Type 7 transmitter cabinet.



iUKADGE Universal Console driven by Marconi Locus 16 computing, c. 1993 to 2004

The operational successor to SLEWC, consoles of this type were safely housed underground in the nearby newly extended and refitted R3 bunker at Neatishead, leaving the R30 Happidrome untouched.

This seems to be one of only 2 surviving examples of about 200 Universal Consoles manufactured under the aegis of UKADGE Systems Limited, with Marconi Locus 16 computers at each position driving Plessey-provided display hardware.

"Universal" or not, the other surviving example at RAF Manston's museum seems not to have that third rectangular display mounted at high level. It's badged "Digital", so perhaps this screen was a direct link to the Hughes Aircraft-provided DEC VAX computers then in the back office. The mounting looks a bit like an afterthought, and its keyboard was not incorporated in the keyshelf, but the screen certainly was not doing anything museum-specific during my visit, so perhaps this is an RAF on-site special.

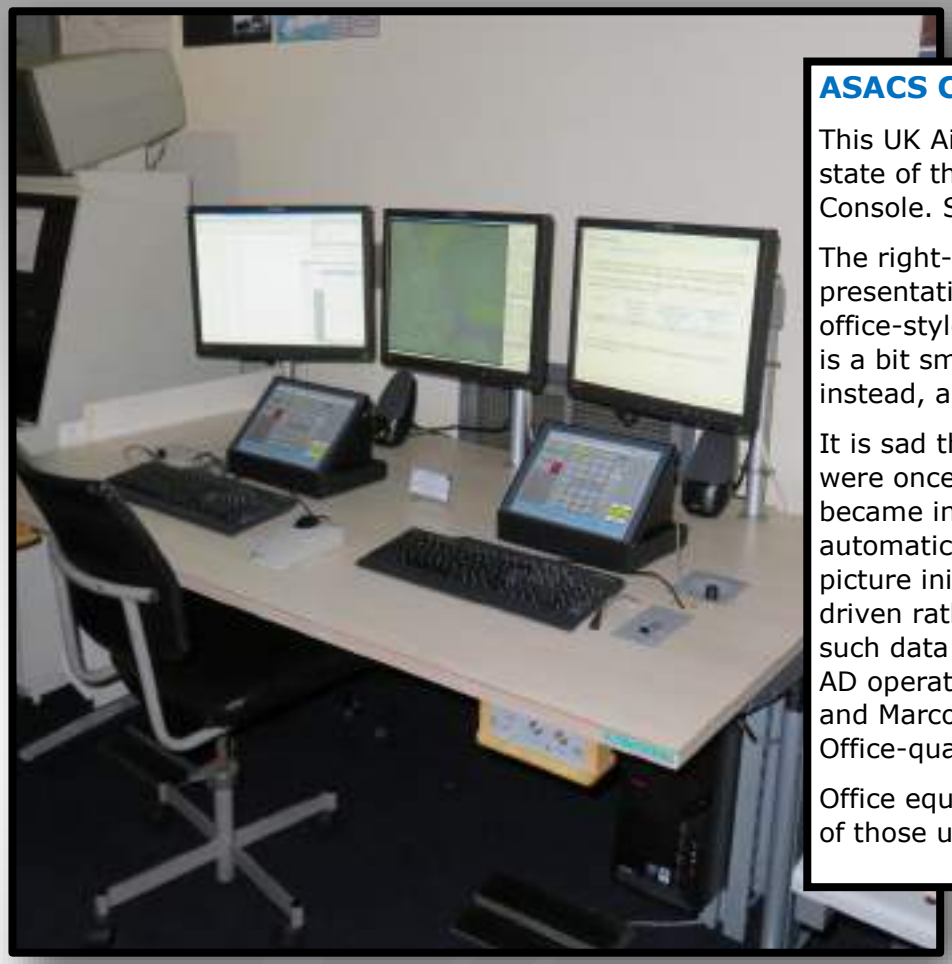
Note the console's incorporation of QWERTY keys to suit a burgeoning digital and alphanumeric age, augmenting the coloured special function keys, although there's still a proper rolling ball on the keyshelf in front of the 4-colour fully synthetic display.

The tube technology was "Penetron", obviously an advance on radar's "any colour so long as it's orange" heritage, but judging by the performance of Marconi Radar's own equivalent unit, there would probably have been difficulty in discriminating between not the red and the green, but the orange and the yellow legends on the screen. NATO/RAF preference would have been to have blue, not yellow, as a colour choice, but the technology of the time could not allow it.

By 1993, there was not a proper radar paint in sight.

Those must be Locus 16 circuit boards peeping out from underneath the left-hand side of the desk. The only obvious logo is at the top left of the main display, and reads "Plessey Displays". I seem to recall that the Plessey Company got in first with their preferred choice of colours too.

Proper Marconi colours, green and mushroom, just where were you when we needed you?



ASACS Console c. 2004 onwards

This UK Air Surveillance And Control console (Console? It's more of a table!) represents the state of the art for air defence in the UK. This is the successor to the iUKADGE Universal Console. Sadly it's nothing to do with Marconi, and was never used at Neatishead.

The right-hand display screen on this configuration at the museum gives a rolling presentation from IBM's Marketing Department about the choice of standard off-the-shelf office-style equipment as the building blocks for the latest in UK air defence systems. It really is a bit smug but then, had any one of the three major players in UKSL won the contract instead, any or all of them (us) would have promulgated exactly the same kind of stuff.

It is sad that Marconi, Plessey and even Hughes Aircraft no longer exist in the form that they were once known; all of them prey to mergers and acquisitions. But modern systems like this became inevitable: certainly Marconi Radar itself was a pioneer in the development of automatic plot extraction. Down-playing the role of the human being in recognizing the air picture initiated the process by which the air defence operations centre became data or plot-driven rather than raw-picture driven. Meanwhile, the development of the ability to transmit such data reliably over long distances clearly increased the likelihood that radar sensors and AD operations centres no longer needed to be collocated. The game has changed for all time, and Marconi was a substantial driver in that process, even to its own eventual detriment. Office-quality equipment now rules, not those brilliantly designed but expensive consoles.

Office equipment or not, at least ASACS still seems to be using a rolling ball, even if it is one of those upside-down computer mouse jobs rather than the real thing.

At one time, RAF Neatishead was to be one of the two bases for ASACS equipment, but RAF Scampton was chosen in its stead. Arguably, that led to the sad state in which the site now finds itself. But who knows? The continuation of Neatishead as a major operational site might have meant no museum as it is today: all that SLEWC display equipment might have been scrapped, so there would have been nothing at all on the following few pages.

Sector Controller's Room: Twinned Consoles with Marconi S3008 LPD and Tabs, and Elliott SSR Display Control Units

The RAF Sector Controller occupied the right-hand position, from which there was a clear view of the lower tiers of the Operations Room, as well as the traditional edge-lit Tote in the background. I believe the large tabular screen in the centre of the room is for the Recognised Air Picture Dissemination System (RAPIDS), a Ferranti product.

From this room, there was also ready access to communication with the Bristol Bloodhound Surface-to-Air missile commanders, via annexes on either side.

The Cold War Room exhibit is not so much a room as a series of rooms: the "Happidrome" is steeply raked like a theatre and the successive rooms become larger as you descend the stairs. This top room was occupied by the Sector Controller, most likely a Group Captain, who enjoyed a Labelled Paint Display screen of 16-inch diameter, rather larger than did the lower echelons. The edge-lit Tote screen that was still updated manually using backward-writing with grease pencil can be seen dimly in the background: even Marconi-Elliott computer technology had not yet ousted Chinagraph.

Marconi: Sector Controller Console

This closer view shows the museum's simulated radar sweep, which is provided on a screen mounted far more deeply inside the console than were the original CRTs.

There was a temporary modification made to these unusually large S3008 displays shortly after my arrival on site in the 1970s: A thick sheet of clear acrylic was secured across the front as a safety measure after a number of the tubes had imploded elsewhere, randomly and without warning.

The force of the implosion was sufficient to drive the electron gun from the neck of the tube through the front of the assembly and, allegedly, into the facing wall. The tubes were made by Ferranti at very considerable expense; so far as I remember there was no consistent history of such failure, worrying though it was. Perhaps the museum visitor is safer without them.

Marconi

Sector Controller's Room (again)

A more general view of the Bridge:

(Sometimes it's better to let the ambient light do its job unaided, especially with a photographically difficult subject.)

The desktop projecting into the body of the room, with its array of push-buttons, appears to be associated with the large Ferranti RAPIDS display between the Marconi consoles, or perhaps Bloodhound. The RAPIDS installation was still in its infancy when I left the site, and I cannot actually recall any of the installations being associated with Bloodhound in those days. Another topic for a return visit...

Lingering in the same room: The legendary Group Captain Joan Hopkins (later Air Commodore, d. 24 May 2010), the first woman to be in charge of the defence of a Sector in the UK, must have sat at this position. She is reported to have said "This place is the best toy I have ever had, and I intend to enjoy it." (vii) Although the context in which she made that remark was very light-hearted, as boys' and girls' toys go, this place does take some beating.

Some visitors think they're on the set of a James Bond movie. But the evil villain was in a Bear, not in this building.

Cold War Operations Room: General View

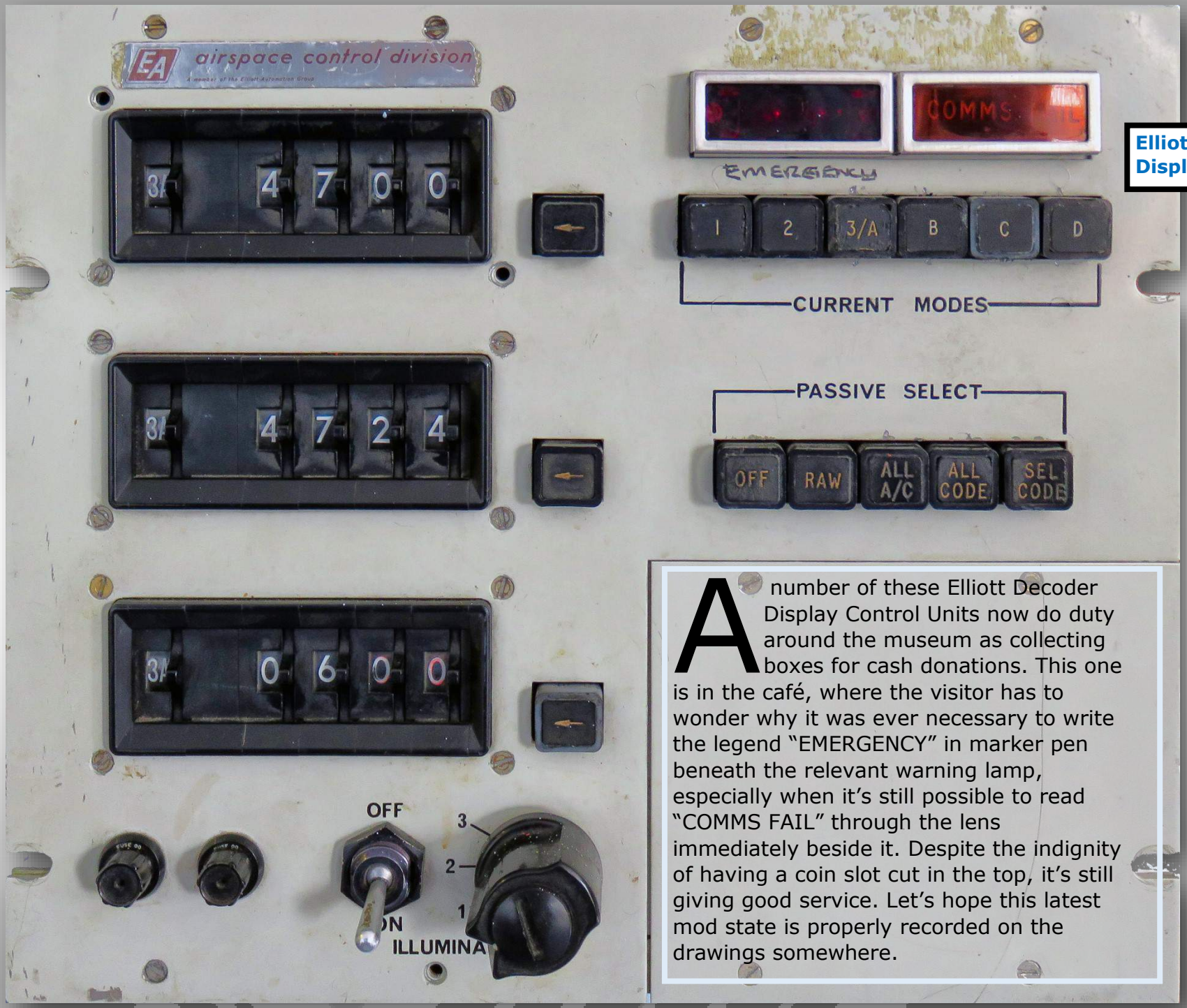
Another atmospheric shot (that is to say it's not very good) taken from the tier of consoles below the Sector Controller's room shows the Tote in full flow at the background, representing a particular day in history, to which the museum guide's talk refers constantly. Intervening glass partitions and high contrast in a darkened room make a reasonable photograph unusually difficult. The screen in the middle is showing the tour guide's presentation, "Welcome to the Cold War Operations Room"—not the same message as was being given to those intruding Tupolev reconnaissance aircraft of the day, by all accounts. Even today, they still flout international aviation law by leaving their SSR transponders firmly switched OFF—an unwelcome opportunity for the RAF interceptor squadrons to keep their skills top-notch.

Marconi, Marconi, Marconi S3002, as far as the eye can see.

The Cold War Operations Room contains about 20 examples of the Marconi SLEWC display console with 12-inch diameter radar displays. Here is one tier of them, stretching off into the half-lit distance. The consoles themselves were impressive pieces of mechanical engineering, designed to be flexible and modular so as to accommodate a range of different display units, each able to be slid out on rails for maintenance. Altogether, each console amounted to an extraordinary weight.

The stairway leading to the area behind the Tote, where the backward-writing "WAAFs" worked, is through the far distant darkened doorway in the middle of the picture…

...they were still called "WAAFs", even although that organisation was renamed as long ago as 1949.



Elliott: SSR Decoder Display Control Unit

A number of these Elliott Decoder Display Control Units now do duty around the museum as collecting boxes for cash donations. This one is in the café, where the visitor has to wonder why it was ever necessary to write the legend "EMERGENCY" in marker pen beneath the relevant warning lamp, especially when it's still possible to read "COMMS FAIL" through the lens immediately beside it. Despite the indignity of having a coin slot cut in the top, it's still giving good service. Let's hope this latest mod state is properly recorded on the drawings somewhere.

A Few References:

The museum and my photographs stirred a lot of memories for me, and it was fascinating to do some research to try to put a little substance to them. No matter what, however, my own memories may be just as blurred and distant in places, and inevitably coloured by age, as the photographs that stimulated them. The Marconi Radar History website itself was the obvious primary source of a lot of information, and its links to other sources proved a starting point for much browsing elsewhere. The following list includes a few of the places I tarried:

(i) http://www.28dayslater.co.uk/raf-neatishead-apr-16.t102907 "Report (Permission Visit) RAF Neatishead - Apr 16"; Members of *28dayslater* visit and record sites of historical interest, usually abandoned. Consent to reproduce the close-up photographs of the Type 84 radar head was kindly given by website member "*ledgehammer*".

(ii) The text on the museum's information panel for the S600 radar gives satisfying recognition to its Marconi heritage in its very first sentence. BAE Systems deserves great credit for its support of the museum, but it's still a slight culture shock to see their logo so close to an iconic Marconi product of its time.

(iii) http://ahistoryofrafsaxavord.blogspot.co.uk/2009/12/radar-equipment-at-top-site.html Gordon Carle writes about his days in the RAF and its equipment at RAF Saxa Vord, including the AN/UPS-1 morphing into the Marconi S259 radar.

(iv) http://www.ventnorradar.co.uk/Type7.htm Don Adams writes about his days in the RAF and its equipment at various sites, including RAF Ventnor, where there was a Marconi Type 7 radar.

(v) http://www.matchboxkits.org/product_info.php?cPath=84&products_id=262 "The unofficial reference to vintage Matchbox kits" presents "Tour 11 : Recent artwork by Roy Huxley".

(vi) http://www.history.org.uk/resources/student_resource_3570.html Victor Lown and Paul Mitchell write about Arnold Wilkins: Pioneer of British Radar in "The Historian", Autumn 2010.

(vii) http://www.pprune.org/archive/index.php/t-416482.html tells of a conversation between Group Captain Joan Hopkins and the then OC Admin Squadron at RAF Neatishead, about the cost of fireworks for celebrations that 5 November.

Postscript

So you found my photographs wanting, did you? You're in good company, because so did I. There's plenty of better ones on the Web, and finding them is always fun, especially when you get distracted.

Or you could just visit the place and make your own pictures. Both the museum and the RRH are signposted locally with the familiar brown and red tourist and MoD signs as appropriate. Sat-navs like to look for NR12 8YB.

The museum shop is not particularly big on imagery, but there is a properly-exposed postcard of the Operations Room on sale (see left).

If a visit does not appeal, you can stay in your armchair and look up this rather stunning 3D presentation of the Operations Room...

http://www.eyerevolution.co.uk/virtual-tours/radar-museum/

...if it's still out there on the Web for you to find it, of course. Eventually the Type 84 will be judged to have lasted longer, no doubt.

But then, that's Marconi for you.