

8 FIVE YEARS IN ARMY RADAR OPERATIONS 1941-46

When I first became aware of radar, then referred to as "radiolocation", I was aged 20 and approaching the end of a degree course in geology at University College, London, which was at the time (1941) evacuated to Aberystwyth on account of the College having been bomb damaged. I had had my call-up to the armed forces (normally obligatory at my age) deferred on the grounds that I was taking a science degree, but by early summer 1941 I was looking around for an acceptable military niche into which I could volunteer myself.

What motivated me to write to the Air Ministry to enquire about posts in radiolocation work I do not know, but on 30 July 1941 I received a polite reply stating "Radiolocation duties demand an intimate knowledge of highly specialised apparatus. This does not appear to be amongst your qualifications ...".

It was not, so I next applied myself to enquiring about survey duties with the Royal Engineers, in which my ex-professor (WBR King) had become Chief Geologist. Professor, at that time Major, King was well disposed to me as a former student who had done well in his exams, and pulled strings which I was reasonably hopeful would have found me a place in a survey unit of the Royal Engineers, a much sought-after job, although it would not have been as a geologist. The relevance to myself was that the survey experience which would have been provided was regarded as being of value to a geological career.

When I was about to commit myself to this route, however, I received a letter from the army recruitment service which I later discovered, or rather was told, had been sent to all 1941 male science graduates, the theory being that since they had had the application to complete a science degree they would also have the application to cope with what was proposed, irrespective of their training to date.

The proposal was to undertake a 3-month high-powered crash course in anti aircraft radiolocation equipment. At this stage of the war such equipment was being mass produced, but there was a requirement firstly for its field deployment and thereafter for constant attention to nurse it through its numerous malfunctions and update it with the many modifications required as the technology developed. There was hence an urgent need to conjure up a cadre of informed army electronics technicians.

Recruits to the Ack Ack Radio School joined as civilians on a pay of £25 per month plus a digs allowance, and assuming successful completion of the course were then commissioned into the RAOC (Royal Army Ordnance Corps) as RMOs (Radio Maintenance Officers). RMOs started with the rank of 2nd Lieutenant at 12 shillings and 2 pence (£0.513) per day, and had no military training - even on how to salute or return a salute (an immediate requirement for a 2nd Lieutenant) - before direct posting to AA gun sites or army workshops.

In autumn 1941 I attended Course 20 at the AA Radio School at Petersham, London, billeted in a hotel in Richmond, where I shared a room with John Sutton, later to become Professor of Geology at Imperial College. The course was certainly high powered; in fact to keep abreast of it I found myself studying at least as hard and often harder than during my geology finals, which I had thought not possible. In this I was

not exceptional - the atmosphere was stimulating and morale amongst an already well educated group of students was high.

Wisely it was assumed that this mixed bag of zoologists, botanists, mathematicians, geologists and others knew nothing about electronics, and hence the very first lesson was an exposition of Ohm's Law. From there the course expanded to cover electronic components, circuits, instruments, practical work, and finally the currently operational army AA radiolocation equipment - it was a syllabus well tailored to the requirement. Although starting from basics the sole end product of my particular course was an ability to thoroughly understand just one item of equipment, the GL (Gun Laying) Mark 2 radiolocation set. An anomaly which struck me at the time was that the principal, and very knowledgeable, instructor of Course 20 was a staff sergeant, engaged in teaching students up to a level which was significantly lower than his own but which would qualify them for immediate commissions.

A few weeks before Christmas 1941 I was duly commissioned into the RAOC, used my clothing allowance to purchase the required clothes from a recommended tailor in London including a peaked cap, a swagger stick, and - importantly - a thick, low-cut khaki greatcoat. I then received my first posting. Fortunately I had been in the OTC (Officers' Training Corps) both at school and university, so in my case at least the absence of any training in military etiquette was no particular embarrassment.

My first posting was to an Anti Aircraft unit located on the ridge immediately south of Grantham. When I arrived at Grantham railway station the whole area was in the grip of a pea soup fog. As instructed, I phoned the unit to inform the duty sergeant of my arrival and to request transport. When after two hours no transport had arrived I found myself pondering what steps it would be appropriate, or possible, to take to assert my new found status as a 2nd Lieutenant. Before I could formulate a position on this thorny problem, however, a 3 ton lorry loomed up through the fog, and when I climbed into the passenger seat I was provided with adequate excuses concerning vehicle availability.

Initially my principal responsibility was for the maintenance of a GL Mark 2 which was used for fire control for four 3.7" anti-aircraft guns at the site. The guns were located in separate circular emplacements surrounded by protective earth parapets.

The radar station (the name was changed from radiolocation to radar at about this time I believe) was mounted in a cabin sitting on a turntable in the middle of an area of robust horizontal wire mesh about the size of a football pitch. This wire mesh was supported by a framework of metal beams and struts, and as the ground was sloping the supports were higher on one side than the other. A diesel generator belching fumes - an invariant olfactory part of GL Mark 2 operations - was located below the higher side. The object of the wire mesh was to produce a level surface to reflect part of the incoming radar signal back up to the aerials.

This was critical, because it was the difference in arrival time of the direct signal and the ground reflected signal which gave a measure of the elevation of the target. To avoid complications an artificial reflecting surface was therefore constructed if the ground was not level. The bearing of the target was ascertained by rotating the cabin until signals from two aerials were in phase.

The range of the target was a function of the time it took for a transmitted pulse to reach it and return to the station. The display used to ascertain the range was a simple green coloured time base on a cathode ray tube, with the outgoing radio pulse displayed to the left and any incoming reflected pulse from a target (or targets) towards the right, the distance between them representing the out and back travel time of the pulse, and this in turn representing the range. In addition to the out and return pulses there was invariably a great deal of what was called random noise, which tended to obscure weak return pulses. Later study of this 'random noise' has led to the science of radio astronomy, but at the time it was simply a nuisance of general but unknown cosmic origin.

The GL Mark 2 set itself was a cumbersome hook up of thermionic valves, their power supplies and circuits, a large and very hot transmitter valve, and a number of mechanical time switches which clanked in as the various units warmed up. All the components were enclosed in or attached to grey metal cases with doors fitted with safety locks. There were no such things as printed circuit boards to be replaced if a fault should develop. Faults, which were frequent, arose from defective valves, resistances, condensers, switches and transformers; they had to be located by fault finding procedures which involved knowing exactly how the electronics worked, following which defective items were removed and replacements installed - soldering them in if necessary. There was an earthed probe just inside the cabinet of the transmitter assembly and the procedure was to earth all condensers with this probe before touching anything else.

Regrettably I no longer have my technical notes, but I believe GL Mark 2 operated at a frequency of around 120MHz. This would make the wavelength 2.5m, which fits with my recollection that dipoles were about 1.25m in length. I do not guarantee these figures but they must be approximately correct.

The job of myself and the one or two mechanics initially with me was to keep the sets working. Operation of the sets was by Royal Artillery teams, usually under the orders of an IFC (Instructor Fire Control), who was normally a sergeant. IFCs were well grounded in the theory of how the sets worked, but to their chagrin were specifically debarred from opening them up - that was the job of RAOC technical staff.

In the case of most GL Mark 2 sets, periodical fixes (range, elevation and bearing) were obtained on a target by the operators and telephoned through to the command post, where they were plotted and the target course calculated - not an easy thing to do in a hurry with the assistance of nothing more than a slide rule. Later, after I was posted away from AA duties in mid 1942, hand operated dials became available to transfer a continuous data stream from sets to command posts, and later still mechanical computers (a complex of cams inside a large box) to accept the data streams and feed computed target positions direct to the guns. Whether or not mechanical computers were used with GL Mark 2 I do not know; it may be their use was confined to the later GL Mark 3, a much improved centimetric wavelength system.

It has to be said that despite a high degree of dedication, the fire control system in use in December 1941 was in a development phase and of limited effect, at least in terms of hits scored on targets. None of the AA units with which I was associated was able to claim such a hit, although they must certainly have complicated the operations of

enemy aircraft and the fireworks displays were beneficial to the morale of those on the ground.

My first close up experience of AA guns in action came soon after my arrival at my first posting. During actions, RAOC personnel had no particular duties, but when Action Stations was sounded on this first occasion I decided there was time to walk across from the accommodation huts to the radar station before the guns were likely to start up. This involved crossing an open area in the darkness between the gun emplacements, but I was confident it would take some minutes for the command post to obtain adequate fixes to calculate a meaningful course for the target.

I was therefore unpleasantly surprised when the four guns fired more or less simultaneously on all sides whilst I was still between them. Pitch darkness became a sequence of brief but very large jagged flashes accompanied by earsplitting noises. I found myself (a) hoping that no one had used the flashes to witness my consternation, and (b) making a firm decision that this was not to be allowed to happen again.

At this time actions nights were not frequent, although the radar station was manned at all critical times. Much effort was put into training and generally smartening the place up. Pathways around the accommodation huts and gun emplacements were neatly marked out by flower borders and white ropes, and on the occasion of one inspection the margins were embellished by lined up lumps of whitewashed coal. In the course of this exercise, whitewash was accidentally spilt on some of the vegetation bordering the paths. This caused the Commanding Officer to decree famously that in the interests of uniformity the adjoining vegetation was also to be whitewashed. Needless to say, this was universally regarded as fatuous by the troops, but nevertheless the clean smartness of everything about the battery contributed to a feeling that this was an elite unit, even if its only realistic objective and achievement was on occasion to make an impressive amount of noise.

Whatever one's view may be, the most memorable thing about the officers' mess of this battery, which occupied a hut at the far end of the accommodation area, could not help being that its walls were adorned by a series of very realistic paintings of charming young ladies without, not to put too fine a point on it, any clothes whatever. The paintings belonged to a captain who was the battery commander.

For Christmas 1941 a party was laid on at the battery and the paintings temporarily disappeared. The female element for the party was provided by a contingent of war workers bussed in from an armaments works in Grantham. In the course of the dancing I became involved with one of their number, and as at the end there was inadequate transport I walked her part of the way back to Grantham in the small hours.

At the time my companion seemed to me to be well endowed with the necessary female attributes except that she was of the advanced age of 26. More importantly, though, I avoided enquiring her contact details because I had made a resolution not to engage in anything in the nature of hankey pankey with the locals.

Fortunately I later rescinded this resolution, but - also probably fortunately - not in time to save this particular relationship. The relationship was abruptly and, it turned out, irretrievably terminated when a lift to Grantham was offered by a unit vehicle on its

second trip, at a time when my resolution was weakening and at a bridge where the then Great North Road crossed the railway line just south of the town.

I was based at Grantham for no more than about three months, having varying responsibilities for maintenance of AA radar stations in the general Grantham/Nottingham area, and part way to Derby. The pattern was that a RAOC radar mechanic was located at each gun site, and if there was a problem with which he could not cope the RMO was called in. The radar mechanics were themselves usually well educated people, many with arts degrees, but their technical training was less basic and more task oriented than that of RMOs.

After the war I had occasionally to travel along the Great North Road between London and points north, and several times called in to see what had happened to the Grantham battery. In immediate post war years it became an open prisoner of war camp. Gone was the whitewash and the prim appearance, but the huts were still there - down at heels versions of the smart ones I remembered. The gun emplacements were there too, but covered in weeds and stripped of all their hardware, including the wire mesh apron of the radar set.

Some years later the gun emplacements had been levelled and the huts were gone, but their crumbling concrete foundations could still be made out amongst untidy waste land at the edge of worked farmland. Finally the site became a housing estate - small houses on the suburban fringe of Grantham, but now separated from the town by a busy dual carriageway bypass which plunged through the ridge on which the former site was situated, cutting below the approach road along which I had walked in Christmas 1941.

I, at least, had no inclination to think so far ahead in the spring of 1942, when with very little warning I was transferred from work on Anti Aircraft to Coast Defence radar. From Grantham I was posted to a CD regiment with its headquarters in a red brick building on the sea front at either Trimmingham or Sherringham on the Norfolk coast, the regimental coverage extending from just north of Yarmouth to just east of Kings Lynn. I cannot now remember whether the base was Trimmingham or Sherringham, but I had to do with both places.

In a sense my job now became more clearly defined. I was the regimental radar officer, with responsibility for the maintenance of 7 or 8 radar stations at each of which was located a radar mechanic. I had the use of a chauffeur driven car and paraded up and down the coast checking on the condition of the equipment, installing modifications, and dealing with locally irresolvable problems.

The radars were referred to as CDCHL sets, meaning Coast Defence Chain Low. The primary purpose of this chain was detection of approaching surface vessels, although it could also pick up low flying aircraft. In addition there was a CDCHH (Coast Defence Chain High), which was run by the RAF for aircraft detection. Some time later, well after I had left Norfolk in mid-1942, I heard that the Chain Low had also been taken over by the RAF.

The sets operated in roughly the same waveband as the GL Mark 2 sets, and had comparable circuits. In this case, however, they were installed in solid brick and concrete cabins, with heavy rotating aerial arrays mounted on ugly oblong metal

frameworks above. The aerial arrays comprised a number of dipoles in front of a metal mesh screens some 3m high by perhaps 4m in with - they were distinctive as well as graceless.

It is not my recollection that these sets were specifically intended to be used for fire control, although they could have telephoned positions of hostile vessels had any approached - which they did not. The sets, however, provided a continuous watch on the coast, day and night, operated by relays of devoted coast artillery crews under the supervision of IFCs.

One impact which I had on their work arose from my discovery that the parts of the aerial leads exposed to the weather were subject to a process of slow deterioration. There was no warning of this in the manuals, and because of its gradual onset plus the absence of any definable failure to function, none of the crews had appreciated that their sets were operating with a capability to pick up targets at ranges very much less than their potential.

I therefore began a process of replacing these leads as spares became available, and in some cases the new leads increased ranges of detection from around 10 miles to as much as 50 miles, well over the horizon. Needless to say this magical improvement in performance was much appreciated by the crews. Many years later I was stopped by a complete stranger in a London street to be told how impressed he had been, as a member of one of these crews, by my ministrations. This was nice to hear although, in the event, in the absence of any approaching enemy my efforts cannot be said to have advanced the war effort.

The CHCHL sets were particularly prone to breakdowns to the transformers in their power supply circuits, perhaps due to the continuous operation being beyond their design capacity. Although generally speaking there was no great problem in obtaining spares, some of the larger transformers were apt to be in short supply. In these cases we were normally able to keep the stations operating by lashing up alternative circuits which we installed on top of the main cabinets with notices to crews to keep off, since they operated at several thousand volts. One of my mechanics actually received a shock of 3000 volts through the end of his nose, but fortunately it did him no harm as the current was low.

Operationally, as I have indicated, this was a quiet period on the Norfolk coast. The only excitement I had was late one very windy night when, driving back from Norwich to the coast with some supplies, our car (it was driven by an army chauffeur) ran into a tree which had fallen across the road. One of the branches broke off and a stout stump projected upwards into the chassis of the car in such a way that it was impossible to move either forwards or backwards. We were obliged to spend the night in the car.

In mid 1942, about the time when I had completed renewing the aerial leads of the regimental CDCHL stations, I found myself allocated to a spell of further training. Firstly I was posted to the Military College of Science at Bury, near Manchester, for a 6-month advanced technical course. I was billeted with a fellow RMO, a zoologist, Lieutenant Smith, at the home of an elderly couple, and we attended college daily. Although we were in uniform, that was the only military element to our life - it was like being at university all over again and our very pleasant lifestyle included a social life,

although Bury at the time was somewhat down at heels. Our hosts made us very welcome, and we had their front drawing room as our lounge.

The course started again from basics, but rapidly progressed beyond the field we had covered at Petersham. We went into theoretical electronics in some detail then moved on to all the currently operational army radar and wireless sets (My recollection is that they were still referred to as 'wireless'.) In our spare time we found ourselves designing distortion free wireless sets - they might later have been seen as prototype hi-fi radios. I actually got down to building one of these, and a diary I kept in Dover some months later refers frequently to my efforts to eliminate a troublesome 50 cycle hum on this set. I fear it was hi-fi only in theory.

I believe it was on completion of this course that students were graded EME (Electrical and Mechanical Engineer) Grade IV, which became Grade III later on achieving the rank of Captain. This was a qualification distinctly worth having, as it carried a daily supplementary pay of several shillings, 7 shillings and 6 pence in the case of Grade III.

After the Military College of Science I was posted to a three month officers' training course at Rushton. I believe that by this time REME (Royal Electrical and Mechanical Engineers) had been split off from RAOC (Royal Army Ordnance Corps) and given the remit to attend to the engineering side of army equipment as opposed to its supply side, so I had found myself transferred to REME. The Rushton course was for REME people such as RMOs who were already officers but had had no formal military training. A number of my colleagues from the Bury course were in the same class as myself at Rushton.

The course was located in on a large ivy covered and rather magnificent mansion in deep English countryside; I presume the building was a historic house which had been taken over for wartime purposes. At any one time around 60 youthful junior officers were based there together with some dozen or so military training professionals whose appearance ranged from hectoring to effete aristocratic. The professionals wore dress uniforms and peaked caps; we others wore battledress and side caps.

We learnt about army organisation and administration, how to fire rifles, pistols and such things as Spigot mortars, and generally how to comport ourselves as if we were to be members of a fighting unit. The idea was that in total war all hands, including the technical, may on occasion need to be on deck to deal with whatever needs dealing with. It was in no way intellectually taxing as the technical courses had been, but nevertheless this was an enjoyable time. Classes were about 20, and my particular class had some good singers in it, so we took to singing between lessons. Without taking any active steps, the school administration was rather proud of this singing class, because it indicated that morale at the school was high. Once I noticed an instructor showing us off unobtrusively to visiting senior officers.

By the Spring of 1943 I had received around 12 months of army training of one sort or another, and was just about as trained as there was any need to be. My next posting was to an elite unit, RMD No 3 (Radar Maintenance Detachment) servicing the fire control radars of 540 Coast Defence Regiment on the cliffs at South Foreland, Dover, where I was based for some six months.

The RMD had a total strength of a dozen or so, including 3 RMOs. The CO was a Captain Emmett and I was 2i/C, but Emmett departed to a Military College of Science course soon after my arrival, leaving me to run the RMD for most of my time at Dover. The unit occupied two requisitioned bungalows, one for accommodation and one as a workshop. The undue number in the accommodation bungalow caused its cesspit to overflow at the bottom of the garden producing, under the devoted care of one of the Craftsmen, a bumper 1943 crop of super tomatoes.

A big advance on the techniques of operational army radar was taking place at about this time due to the invention of the resonant cavity magnetron, which permitted use of much shorter wavelength transmitters with corresponding improvements in accuracy and compactness of the stations. As Dover was in the contemporary front line, 540 CD Regiment was the first coastal defence unit to benefit from this development, being equipped with several 10cm (wavelength, ie 3GHz frequency) stations for fire control. The magnetrons were regarded as highly secret items, to the extent that each was provided with an ignitable magnesium box, in which it was supposed to be destroyed in the event of an enemy commando-type raid.

Whilst I was at Dover we also received the lash-up prototype of a 3cm radar with a PPI (Plan Position Indicator) screen. This equipment had been developed in the first place for naval use, and had a display which was comparable to a that of a primitive version of a modern marine radar. Unlike the 10cm sets it had one parabolic aerial doubling for transmission and reception. This parabola could be rotated through 360 degrees, but once a target sector had been identified its beam was scanned through this sector (about 15 degrees wide), not by rapid rotation of the aerial as in the case of a modern set, but by mechanical oscillation of a waveguide in the centre of the parabola. It was the working of the crude mechanical oscillation mechanism which gave us our only serious difficulty.

Accuracy was greatly improved by the inclusion of a facility to 'magnify' a selected part of the sector being scanned, permitting detailed plan display of an area at a range of, say, between 15 and 20 miles. Within this sector individual vessels appeared as convincing cigar shaped blobs of green light, and splashes produced by falling shell also appeared as similar but transient blobs of light. The fire control objective was to cause these two types of radar echoes to coincide. During this period German convoys were going through at the rate of one a month, on nights with highest tides and least moonlight. It was therefore possible to predict action nights in advance. As convoys of ships, unlike aircraft, were within range for significant periods of time it was possible to adjust the range to individual targets by trial and error, with some apparent success, although the convoys were never stopped during my time in Dover. Nevertheless, the accuracy of gunfire controlled by the use of this set in particular had the effect of driving the convoys nearer and nearer to the coast of France in successive months.

It was at South Foreland that I first became aware of the gap in technical education that had developed at the time between younger technical people and some senior officers. There were frequent senior visitors to the Regiment and I often found myself called to explain the basic workings of radar.

My life in the Dover area revolved around the Regimental Mess, which was located in a charming Victorian building on the cliff top at South Foreland, and which incorporated

an old lighthouse (the 'Low Light') in the lamp room of which had been installed a 10cm fire control radar. Because of the protection afforded to the parabolas this was the only 10cm radar able to keep operational in high winds. In 1996 I revisited the area and found the main building gone, leaving only the lighthouse tower, which was in a state of semi ruin in somebody's garden. I was told it had been a pigeon loft.

In late 1943 Emmett returned from his course, by which time I had become thoroughly used to running the show myself. Rather than remain at Dover as 2 i/C I contacted the officer responsible for RMO postings (he was an ex-RMO himself) and asked for a transfer. He enquired if I would like to go abroad, and in a fateful moment I said I would not mind. I almost immediately found myself posted to Northern Command in York, which I found a bit of a come down after Dover, even although I had my own unit again (No 8 RMD).

I was beginning to think I had fairly thoroughly cooked my own goose when, after only three weeks, the York posting came to an end and I was mobilised at Arnold, Nottingham, for posting abroad. I had charge of a draft of about 20 REME technicians, several of whom I managed to keep with me throughout our stay in East Africa, which proved to be our destination.

This was the start of a life of considerable luxury. I am in possession of a great deal of detail about the outward trip and my three years in Kenya, Madagascar and Ethiopia, because before I left the UK my father took me to one side and said my mother would be worried if she did not receive regular twice weekly letters. My mother lovingly preserved these letters, which I have since typed out in an accessible form, about 200,000 words in all. Together the letters comprise a comprehensive diary of what wartime life was like in East Africa for an expatriate Brit, but on account of the constant stress placed on security they contain no military information; the earlier letters even excluded any indication as to where I was located, although reading between the lines this was obvious enough.

I was now detached from REME to EAEME, its East African version, and went first by train up to the EAEME Depot and Training Centre at Karen, Nairobi. After a week there I was posted back to Mombasa, to 41 AA Workshop Co, from where I was detached for a few weeks to a Heavy Anti Aircraft unit at Likoni, a few miles south of Mombasa. The military set-up was similar to that at Grantham, with 3.7" guns and a GL Mark 2 radar.

The fear was that the Japanese might do as they had earlier done in Malaya and the Pacific, and make a long range hop across the Indian Ocean to East Africa. This was the reason why about a year earlier British troops had moved into Madagascar. By Christmas 1943 a surprise attack had become unlikely, in fact it was the allies who were moving forward, but it was still too soon to dismantle the defences which had been put in place around Mombasa. Army life in Kenya, though, had become fairly relaxed. My duties at Likoni did not take up more than half my time, and during the remainder I occupied myself by roaming on some rather fine coral reefs and swimming from deserted coral sand beaches.

This idyllic existence did not last for long however. In early February 1944 I was posted to take charge of a detachment of 41 AA Workshop which was attached to (to

give it its full name) 15 (EA) HAA Regt EAA, based at Diego Suarez, Madagascar. I travelled there from Mombasa on a BOAC Sunderland flying boat, which descended from refreshing coolness to the damp heat of Zanzibar and the Comore Islands to refuel.

My posting to Madagascar was even more fortuitous than most wartime postings, in that it came about because my predecessor had requested a transfer, having fallen in love with a married local French lady. Being an honourable man, and local French morality still being in a 19th Century phase, he had decided he must extricate himself. He had changed his mind before I arrived, and was engaged in bitterly regretting his impetuosity, but it was too late.

The detachment I joined consisted of about a dozen Europeans plus a similar number of African support staff, and constituted a complete mini workshop to look after maintenance of all regimental equipment including the guns and transport. My own job was partly to administer the unit and partly to take normal direct responsibility for the maintenance of two radar stations; there were senior NCOs who dealt with the other specialities.

We were based at regimental headquarters in some very substantial former French army barracks at Cap Lazaret, a few miles outside Diego Suarez, and the GL Mark 2 radars were located at 3.7" AA batteries some 10 to 15 miles away, one to the east and one - which had to be accessed via a civilian ferry across Diego Suarez harbour - to the north.

Some of the European officers in Diego Suarez, at least, had a social life involving the French and Creole section of the local population, although this was not really adequately large to go round. The AA regiment was on an active war footing. As far as I was concerned this meant periodical calls out in pitch darkness, at times after a late night social event, to bump along appalling dirt tracks, sometimes muddy morasses and sometimes bowls of dust, with spares needed to keep the radars operational.

The need for the AA batteries to remain alert became apparent soon after my arrival, when a solitary Japanese plane - it was supposed launched from a submarine - flew over Diego Suarez in the middle of the night. It was picked up and plotted by the radar of the battery where I happened to be when this occurred, but by the time the duty officer had realised this alert was for real, and had done the geometry of adequately working out its projected position with his slide rule, the plane was out of range.

This was another occasion for bitter regrets, because the battery commander later decided it would have been politic simply to have blazed away whilst the calculations were being done, instead of not firing a single shot on the one occasion when an enemy plane passed overhead. After months of having had nothing to do except drills, keeping the place tidy, innovatively furnishing the bar in the officers' mess by application of hessian sheets, palm fronds and bamboo canes, and playing with a pet monkey and the local chameleons, firing the guns in anger would have given some semblance of a purpose to the activities of the battery. Standing orders, though, said to ascertain the projected position of an enemy plane before firing.

By the time I left Diego Suarez in March 1945 the British presence there was being noticeably run down, and I returned to Mombasa to several months of administration duties with 402 Command Workshops. The war machine was, however, not too easy to

stop once activated, and it would appear that a coastal defence 10cm-wavelength radar must have been ordered for Mauritius some years before, presumably when the Japanese risk was acute. In late July 1945 the radar equipment duly arrived in Port Louis, and I was sent to supervise its installation at the top of Signal Mountain - overlooking the town and around 1000ft above sea level.

This radar station was similar to those with which I had been familiar at Dover some two years earlier. It comprised two parts. Firstly there was a large and solidly constructed cabin mainly of reinforced concrete, prepared by an engineering unit which had built it to plans supplied, and then departed. The construction included a neat circular hole in the roof to take the aerial turntable and a number of large rag bolts fixed firmly into the floor below the hole, to bolt on the electronic consoles.

The second part of the station comprised the electronic and mechanical elements, ie the radar set itself, complete with its aerial (two parabolas fixed side by side) and aerial turntable. It was for myself to install these items into the cabin, with the help of a staff sergeant and some local troops.

It proved to be by no means a simple task to manoeuvre the heavy turntable unit into its hole on the roof with minimal mechanical assistance. Whilst we were struggling to do so, and at a moment when I had succeeded in applying a good deal of oil and grease from the turntable to my uniform, news of the Japanese surrender reached us over the radio. This had been anticipated for some days, and being well disciplined - and without alternative occupation - it was not long before we returned to our task.

Immediately the turntable was in place we discovered, however, that its waveguides failed by several inches to line up with the waveguides of the console below, and the position of the console was of course immutably fixed by its rag bolts. Waveguides have to be straight; it is not possible to bend them and expect them still to function. It was apparent that the engineers had got their dimensions wrong and there would be a delay whilst they were recalled to sort them out.

My seat had been booked on an RAF flight to Mombassa, and moreover I had social reasons for wishing to stop off at Diego Suarez en route as soon as possible, so I fear I left my staff sergeant to deal with the remainder of the installation as best he could. It was clearly no longer a matter of first urgency. How it worked out I never knew, but I imagine that fifty or so years later the remains of that concrete cabin must still be on the top of Signal Mountain, Port Louis.

This was the end of my career as an RMO. I, like every other RMO of my acquaintance spent the remainder of my military service on administrative work. This took me first back to the EAEME Depot at Karen, Nairobi, where as Depot Adjutant I was concerned with demobilisation of African troops, and finally to Addis Ababa as part of BMME (the British Military Mission to Ethiopia), from where I eventually travelled back down the Nile valley to the UK for demobilisation in late 1946.