



RADAR RETURNS



ECHOES FROM THE PAST AND PRESENT

“We live in the present, we dream of the future, but we learn eternal truths from the past.”

Madame Chiang (b. 1898), Chinese educator, reformer

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EDITORIAL

Welcome to the first edition of Radar Returns for 2003. This edition contains all the usual snippets of radar history as well as introducing some 21st century methods to the newsletter's distribution.

For the first time, as well as mailing out Radar Returns in the traditional manner, I shall also be sending out electronic copies to all those radar people who have given me an E-mail address. This will help to reduce postage costs. The electronic copy will be able to be printed if you prefer to hold paper in your hand while reading. It will also provide additional features such as allowing you to search for information or magnify the text to make it clearer to read. (Some of us have to wear glasses after sitting in front of a radar screen in the dark for too many years.)

The distribution of this newsletter will also be a little larger as a number of post-WWII radar personnel have been added to the list. As everyone would

appreciate, our radar history did not cease at the end of the war (despite government cut backs) and a significant amount of radar history from this era needs to be recorded.

People from the post WWII era have served all over Australia, South-East Asia and the United States as well employing all sorts of equipment and radar detection techniques. Personnel who served with ICRU (Brookvale NSW) are planning to have a reunion in 2005, the details are on page 5.

I hope to be able to print some of their stories in future editions of Radar Returns.

114MCRU is celebrating its 60th Anniversary this year and they have invited all interested parties to join them in Darwin in May 2003. The details are inside. A number of wartime veterans would have served with this unit when it was known as 14MFS or 114MFCU or sent their radar plots to this fighter sector when they served on Goodenough Island, Kiriwina, Admiralty Islands, and Tarakan.

Ed Simmond's report on page 6 also provides another view of 114MCRU today.

114MCRU remains the **only** non-flying unit in the RAAF to receive a Squadron Standard!

With the recent increase in the number of entries I have had to make in the Faded Echoes column, I thought that it would be an appropriate time to remind people of the RAAF's requirement when attempting to depart their mortal coil. 'Dying Orders' are laid out on page 8 of the newsletter and people should be aware of their responsibilities!!!

Allan Ferguson's comments on the Australian Service Medal (page 4)

provide and insight into the idiosyncrasies of unit A50 History Sheets and how they can assist in providing evidence of your service with a unit. Another worthwhile document to examine is the Personnel Occurrence Report for the unit as they may also provide evidence of your residence in a particular locality.

The important role that radar played in our past is slowly beginning to be recognised by organisations around the country. Leo Doolan's description of his visit to Cape Otway (page 5) is one example where this recognition is being provided so that the general public can appreciate a significant part of our country's defence during WWII.

The 'new' radar system the RAAF is developing is coming on line and I have included a Minister For Defence Press Release on page 6 to bring everyone up to date on developments in AEW&C in the RAAF.

Overall, this edition is a varied collection of radar facts and figures, both old and new. I hope it brushes away some cobwebs and brings back some memories of past events and friendships. Please enjoy.

[For those who collect past editions of Radar Returns, I should allay your fears by telling you there were only two editions last year. My work commitments and other activities got in the way and I was unable to get a third edition out. Hopefully I will not let this happen this year!]

Pete Smith

[Editor]

FADED ECHOES

If you can provide further details on anyone mentioned in this column, please send them to Radar Returns so that their history can be accurately recorded. [Editor]

Frederick Owen Jeffers

I served with Owen on 47RS from 27/12/1942 to approximately the middle of April 1943. When I joined the unit it was located at Kalamunda WA, in the hills just outside Perth. About the end of February 1943 it was closed down and all the personnel were transferred to Geraldton from where 47RS continued to operate. In April 1943, when the WAAAF operators were taking over, I was posted to 35RS at Albany and from that point I lost contact with Owen.

However, in the early 1950's Owen was appointed to the Taxation Office in Melbourne where I was also employed and we renewed our acquaintance. After several years, Owen resigned from the Tax Office and went into private practice. I caught up with him again about the middle 80's when three other tax chaps, who also knew Owen and myself, visited Corowa where he resided. We contacted him and spent a few hours with him in Corowa RSL.

Arthur Johnston [Vic]

FSgt Harry Busch

I knew Harry when he was one of the Headquarters' maintenance crew setting up 324RS on Cockatoo Island WA after it was transferred from Noonkanbah. I remember him for his bright attitude and his ability to play the trumpet.

Arthur Johnston [Vic]

Harry was a remarkable man yet he would be the first to say he wasn't. Harry left school at the end of the Great Depression and found employment in Mildura as a barber. He obviously passed the RAAF test for suitability in the electronics area.

Harry and I were on course together on 5RMs in Melbourne and 13G at Richmond. He took to radar, or RDF as it was then, like a

duck to water. Post-war he remained in radar in WA for the rest of his career.

Ed Simmonds [NSW]

Vale Thomas Bruce Alexander

I felt rather sad to learn that Bruce Alexander had passed way and I appreciated his support to me in collecting details of radar equipment used by the RAAF during WWII. I gained more knowledge about the AW electronics and details of the Mk III LW/AW from him than from any other officer of Radiophysics. Regrettably the RAAF bureaucracy decided not to proceed with the Mk III for incomprehensible reasons.

With Bruce's passing the world has lost another gentleman who did his best to help us in the RAAF. My sincere hope is that, in *Technicalities and Generalities*, I have given him the credit due to him.

Ed Simmonds [NSW]

I only met Bruce in 1999 when I was researching information for my book *Who Were They?* From memory, Harry Minnett put me in touch with him as his name appeared as a visitor from Radio Physics Laboratory (RPL) in the A50 History Sheet for 101/54 Radar Station. I visited Bruce on a number of occasions and found him very interesting and informative. It transpired that we had both had the same employer (British Tobacco Company Ltd) immediately after the war but we were employed at different times, locations, and in different functions.

Bruce had a degree in Engineering from University of Sydney (1932-1937) and joined the RAN in 1940. He was the Radar Officer on HMAS Hobart but was demobilised in early 1941 at the specific request of Professor J.P.V. Madsen (Chairman of the Radio Physics Advisory Board) to join RPL.

Bruce's connection with 101/54RS commenced in February 1943. He arrived with the LW/AW Mk III which was set up there for testing under field conditions. After some

modifications a field model of the transmitter was built at RPL and brought to Collaroy for further testing and for training a small team of RAAF men to operate it. The LW/AW Mk III set was eventually sent to Los Negros (Admiralty Islands) in August 1944. It was set up adjacent to the LW/AW Mk 1A of 337RS to obtain a comparison of the performance of the two sets. It was obvious that the Mk III was superior in range and detection ability. Bruce was allowed to visit Los Negros for 5 days in early 1945 to see, at first hand, the performance of 'his baby' in the field. Although he was a civilian, Bruce had to wear RAAF uniform just in case. The LW/AW Mk III was dismantled at the end of January 1945 and returned to RPL. Although the Mk III's performance was superior, the 'powers that be' decided that they were happy with things the way they were and believed that the introduction of the Mk III would complicate the supply of spares and training of radar personnel. However, the RAN created an air warning set (A268Q) following the Mk III design and installed it on a number of ships.

Ted Dellit [NSW]

Frank Stubbs Died 18/12/2001

Frank's radar friends will be sorry to hear of his death on 18 December 2001 after being afflicted with an aggressive cancer. Frank was a Radar Mechanic and was posted to several stations in NWA after some time at 16RS Gabo Island. His stations included 154RS at Truscott, 61RS at Peron Island and 59RS at Lee Point. He was able to attend the Maroochydore reunion with his wife Dawn and also helped greatly with historical notes for his stations.

Morrie Fenton [SA]

Frank enlisted on 29/06/1942 and was a member of No 48 Radar Mechanics (G) Course [15/11/1943 - 13/2/1944]. He went onto serve at 16RS, 59RS, 61RS, 154RS, and 10TU before

he was discharged on 30/04/1946.

[Editor]

**Colin Henry Fitch
Died 30/10/2002**

Born in Toowoomba in 1924, Col enlisted in the RAAF on 17/08/1942 and went onto complete No 34 Course Radar Operator's Course [05/10/1942 - 01/11/1942]. He was discharged as a Corporal on 26/03/1946.

[Editor]

Cecil John (Jack) Pratt

Cecil John Pratt enlisted on 24/11/1942 before completing No 42 Radar Mechanics (G) Course [31/05/1943 - 22/08/1943]. He went onto to serve at 20RS, 343RS before being discharged on 24/04/1946. [Editor]

It is with deep regret that we record the death of Cecil John (Jack) Pratt of Nelson Bay NSW. We extend our sympathy to Zoe, his wife, who was a member of the WWII WAAAF and served as a Teleprinter Operator in Townsville Qld during WWII. Nevertheless we give thanks for Jack's life, noting that he served in Balikpapan and Tomaree Radars as a Radar Mechanic. Like many of the youth of the 1940's Jack volunteered to serve his Country at the time of its greatest need.

Air Defence Branch [NSW]

**Joe Lynam
Died 08/10/02**

We were sorry also to hear of the death of Joe Lynam who presided over the Victorian RAAF Radar Association for many years and extend our deepest sympathy to Mary, his wife, on this sad occasion. Joe and the Victorian Association strongly supported the many reunions organised by the Branch, particularly the 50th Anniversary of Radar, celebrated in conjunction with the RAAF at Bendigo Victoria on 22nd March 1992. He served as a Radar Mechanic in Papua New Guinea during WWII and will be long remembered for his work with the Victorian Radar Association.

**Francis Edward Smith
Died 10/11/2002**

Born in 1917, Frank enlisted in the RAAF on 29/05/1941 in Brisbane

Qld. He was one of very early Radar Operator's when he completed No 2 Radar Operator's Course [05/01/1942 - 30/01/1942]. He went onto serve on 20RS, 23RS, 25RS, 31RS, 339RS, 350RS. Frank was discharged on 17/01/1946 as a Sergeant. [Editor]

**Kelland Frank Hutchence
Died 12/12/2002**

Kel and I did No 29 Radar Operator's Course at Richmond about September 1942 (14/9/1942 - 11/10/42). We served together on 136RS Townsville and 151RS Merauke DNG. Kel did further time in DNG, I think at Kombies. Kel was a charming person, very popular with everyone. He took his RAAF service very seriously. He was a corporal at one stage. *John McAuley [NSW]*

HUTCHENCE FATHER DIES

A memorial service will be held in Sydney next Tuesday for Kel Hutchence, father of the late INXS singer Michael Hutchence. Hutchence senior, 78, died at the Wolper Jewish Hospital in Sydney's Woollahra on Thursday. He had suffered from lung cancer for two years and was gravely ill for five weeks before under going surgery at St Vincents Hospital on Wednesday. A family Hutchence spokeswoman said Hutchence was "very peaceful" just before his death.

Hutchence was active in preserving the memory of his rock star son, who died in a Sydney hotel room in November 1997. Kel and his wife Susie maintained the Michael Hutchence memorial website.

Iain Shedden

Australian 14/12/2002

John Ralston Wallace

John Wallace enlisted on 13/09/1941 and was a 'Bailey Boy'. He completed No 5 Radio Officers (G) Course [11/05/42 - 26/06/42] and went onto to command 131RS Ash Island and 138RS Port Moresby. He was discharged on 15/03/1945. Post war, he worked at *W D Scott and Co* and *Clyde Engineering* manufacturing rotary hoes to diesel locos. He then moved to

Newcastle as Works Manager of *Allis-Chalmers (Aust)*. He ran his own plant hire firm for seven years and was the Plant Engineer of Lake Macquarie City Council from 1974-87.

Air Defence Branch [NSW]

**Gordon Raymond Eaton
Died 21 Jan 2003 Geelong, Vic**

Born 8 May 1914 Cobram, Vic, Gordon enlisted in Bendigo on 2 April 1942 and was discharged from 227 Radar Yanchep WA on 13 January 1947. [He was a member of 33 RDF Mechanics (G) Course from 08/02/1943 to 02/05/1943.] Gordon's lifetime of friendly help to others may have stemmed from his boyhood years on the River Murray. Educated at Geelong College, he was a powerful swimmer with the Lifesavers, a keen surf angler and he also played the violin. He married Viola on 4 December 1937. Upon enlisting in the RAAF at Bendigo, where he was working in Insurance, he trained as a Radar Mechanic. Attached to RMF HQ, Perth he travelled across WA from Radar Units at Albany to Truscott in the far north, installing and calibrating equipment including IFF and ASV Beacons. He also installed radar units in RAAF aircraft. Not until his later years that he and friend, Max Lamborn, realised that they were never posted to any RAAF Unit and therefore did not appear in any Station's Personnel Records. After discharge he used a motorcycle and sidecar based in Geelong to manage Automotive, Fire & General Insurance across all of Western Victoria and rose to become the District Manager. Driving to his home in 1999 he was stricken with blindness in both eyes. He then installed and experimented with digital cameras and Wide Screen TV equipment in the hope of being able to read incoming correspondence; recent books about Radar Units and family history he had pursued. The experiments were not successful but Gordon never complained. Despite his blindness he cooked and served meals to visiting friends. St. Luke's

Uniting Church at Highton near Geelong was filled to capacity for a Memorial Service for Gordon on 29 January 2003. He is survived by his sister Beryl Little, his daughters Adrienne and Carolyn his son, Brian, many fond grand children and great grandchildren.

Jim Coad [Vic]

Dean Dadds [Vic]

A tribute to Gordon EATON

I have wonderful memories of a most remarkable mate since early 1942 when we joined the RAAF as Trainee Wireless Maintenance Mechanics at 1 STT Melbourne. We went onto further training at "Tin City", Richmond, NSW, and later as Senior Radar Mechanics on radar stations. Gordon's high ideals, his family integrity, his ready wit and sense of duty were exemplary. Our friendship for more than 60 years, despite the tyranny of distance, and brought us a mutual understanding of life's problems which could be freely discussed with my most loyal of friends.

"Lest We Forget" - Gordon Eaton
Mervyn Clark [Qld]

Henry Alban (Harry) Marsden Died 13 Feb 2003

After prior Army Service, Harry enlisted in the RAAF and completed No 89 Radar Operator's Course [06/09/1943 - 03/10/1943]. Amongst other duties he served on 141RS which was partially installed but never commissioned in Wingfield SA.

David Ian Greenham Died 12/2001 Perth WA

Queensland born and bred, David spent his initial working life as a teacher in a technical school. In 1940 he qualified as a BSc (Qld) majoring in subjects of physics & maths and obtained merits, the highest award in the final year. During the war, he served in the RAAF from 1941 to 1945 as a Radar Officer and rose to rank of Squadron Leader. He served at various locations on the east coast and was with 4RIMU in northern New Guinea on radar site selection and commissioning. *Echoes Over The Pacific* makes mention of his

involvement with calibration of 161RS at Moratai.

In 1948, he joined Department of Civil Aviation in the capacity of Airways Engineer, Qld Region and became the Sectional Airways Engineer, Townsville from 1949 - 1951. From 1951 to 1957 David was the Senior Airways Engineer (SAE) at DCA Head Office, Melbourne, in relation to development and installation of the Australian Domestic DME Beacon System. Site selection was very much on his agenda.

In 1957 he was seconded to ICAO Technical Assistance Mission, Indonesia, initially as Radio Engineer, and finally as Chief of Mission. In 1959, returned to DCA Head Office in capacity as SAE Navigational Aids Maintenance. From 1961 to 1963, he was again seconded to ICAO as Chief of Technical Assistance Mission. David then moved onto DCA in Western Australia as SAE (Radio) from 1964 - 1978 and was responsible for radio facilities within that state and also the Cocos (Keeling) Islands. He retired in December 1978, and resided in Perth. He suffered health problems ten years later, but still managed to live in his own home with wife Jess.

David passed away December 2001 at the grand age of 88 years. His funeral at Karrakatta Cemetery was attended by family, friends and DCA representatives.

AUSTRALIAN SERVICE MEDAL

Bill Aubrey [NSW] phoned me about this over a year ago - he already had received his medal, having had proof that he was part of the Loran dismantling team during 1946/7. I immediately put in for mine, having been on Champagny Island from about October 1945 to Feb/March 1946. I was a radar mechanic and had been posted from Truscott across to Sir Graham Moore Island to train on Loran. After about fortnight on SGM I developed a skin disease and the MRS at Truscott shot me up to 1MRS in Darwin while the problem was fixed. On discharge from hospital

I spent several days attached to NW Area HQ, doing chores around Darwin area. One of these was working on the wharves loading barges with disposal equipment and dumping it in Darwin Harbour. Some of the crates dumped were the very ones I had filled with the parts of 319RS, which I'd dismantled - we had to be so "very careful" in packing these crates. What a shock to see this gear dumped into the sea!!

From Darwin I was posted straight to Champagny where I spent a few months. Fortunately my Medical Records showed my posting from 1MRS to Champagny "on Loran duties" - so I at least had some proof, which Medals Section accepted, and I received my medal last July.

I had told Len Ralph (SGM) and Bill Gordon (Champagny) about it and they applied. Len had some difficulty proving that he was on Loran (as your article says, no records had been kept), but, luckily, I had the A50's for 317RS which mentioned Sgt Ralph being posted from 317RS (SW end of SGM) to Loran duties at the NW end of the island. The A50 copies were of poor quality, but readable enough to prove that this in fact occurred. I sent Len a copy and he has now been approved and awaits his medal. Bill Gordon's application has been acknowledged. Len had admonished RAAF Records and, more or less, told them to "get their act together" with regard to records relating to those who served on the Northwest Loran Chain.

The unfortunate part is that there could be others in the same boat - I have photos with the names of a number of guys with me at Champagny who may not have received their medal.

Allan Ferguson [Vic]

60TH ANNIVERSARY TARAKAN PARADE AND BALL

No 114 Mobile Control and Reporting Unit is pleased to announce that it will be holding its 60th Anniversary Tarakan Parade on 23rd May 2003 at RAAF Base Darwin. The parade commemorates the contribution of No 114 Mobile Fighter Control Unit during the Tarakan campaign of 1945. As a result of the contribution made by No 114 Mobile Control and Reporting Unit in the Pacific theatre during World War II, the Unit has the unique distinction of being the only non-flying unit in the RAAF to be awarded Battle Honours.

In recognition of this significant milestone in the Unit's history, it is hoped that the 60th Anniversary Tarakan parade will be reviewed by Air Marshall Angus Houston, AO, AFC, Chief of Air Force, accordingly, the Unit Standard will be paraded. Following the parade, No 114 Mobile Control and Reporting Unit will host an Open Day and a barbecue lunch at the Unit. This will be followed by a Tarakan Ball to be held at RAAF Base Darwin and entertained by the Air Command Band. Tickets to the Tarakan Ball will be approximately \$50.00 and a Commemorative Port will be available for purchase during the Open Day.

The Commanding Officer of No 114 Mobile Control and Reporting Unit, Wing Commander Dennis Davison, would like to cordially invite readers of Radar Returns to attend the 60th Anniversary Tarakan Parade, Open Day and Ball. Interested members are asked to contact:

Pilot Officer Amanda McCurran,
Phone: (08) 892 42005
or by post:
c/o 114MCRU, RAAF Base
Darwin, NT 0820.

1CRU REUNION

Planning is in hand for a reunion at the old 1 CRU site to celebrate the 50th Anniversary of the formation of RAAF Brookvale NSW.

The date planned is June 2005, the Queen's Birthday long weekend.

It is hoped we will be able to place commemorative plaques at the old Ops and Domestic sites.

The Reunion will allow the CARU Family to catch up after many years.

There will be a couple of dinners planned over the weekend. If you are interested in joining in, contact:

Howie CAMPBELL

2 Preece Close

SPRINGFIELD, N.S.W. 2250

Phone: 02 43221505

howann@comcen.com.au

or

Jenny (Marheine) SCIORTINO

9 Birnie Place

CHARNWOOD, ACT. 2615

Phone: 02 62582078

shorties@austarmetro.com.au

I have already started the ball rolling and have approached the owner and developer of the "domestic site" (Boomerang) and he is happy about having a plaque put on the site, but would like to see and ok it first.

The site for a plaque on the ops area is owned by the Warringah Shire and is a public space, so I will have to negotiate with them.

I am looking at catering charges at DY RSL and Harbord Diggers.

Any suggestions will be greatly appreciated. I will need lots of help for all this so feel free to throw your hat in the ring.

Howie Campbell [NSW]

13RS Visit

In August of this year I had the opportunity to visit the site of 13 Radar at Cape Otway, 57 years after I was posted there in August 1945. I had made a very brief trip there in the early 1980's, but this time I was able to stay in Apollo Bay for several days and the trip out to the Cape was much more comfortable than the original trip; sealed and sign-posted road all the way. Just about the same number of bends and turns though.

The radar site is incorporated into the lighthouse complex (now privatised) and is a major feature of the Great Ocean Road Scenic Drive. The Light Tower is no longer operational and has been replaced with an automatic solar powered light in front of the tower, the original light and tower is available for inspection. The site of the radar is now listed in the Tourist Information as the "Radar Bunker". At the Tourist Centre in Apollo Bay I was advised to contact the manager of the complex. This was very rewarding as I was able to spend about an hour with the Manager, Nick Braden, who is very interested in including the radar area in the tourist trail. We visited the Doover which was very weatherworn and entry has been closed off with steel mesh, but there is a notice describing wartime operation of the radar. (Several overseas tourists were very interested in our conversation and even joined in with questions). It is estimated that 80 thousand tourists visit each year. Most former 13RS members will remember that the RAAF site was very open and a fence separated the site from the lighthouse site which was also open and used by the lighthouse people to graze their house cows. The whole area is now overgrown with coastal scrub and it is difficult to get one's bearing, but I was able to identify the site of the ablution block and the two sleeping huts. One of the engine rooms has been excavated and nearby the remains of what was thought to be a septic tank, but I was able to declare it to be the grease trap. The Manager is very keen to develop the whole complex and if any readers can provide information they should contact:

Leo Doolan [Vic]

ED's VISIT EXERCISE PITCH BLACK 2002

It doesn't matter where you 'retire'; an ex-radar person just can't stay away from radar if the chance presents itself! The following is an excerpt from a letter written by Ed on 30 July 2002.

"The 2002 Exercise Pitch Black is being held off the North Coast near where we live. So when a photo appeared in the local freebie paper of the radar set from 114MRCU at Bonny Hills we decided to see if we could find the crew.

We found that they were in the Rainbow Beach Caravan Park and visited them. We had a marvellous reception and stayed for a couple of hours as they were very interested in what we did during WWII. In fact we gave them about 30 copies of *Echoes Over The Pacific*, four copies of *More Radar Yarns* and 10 of *Pictorial 1*.

They took us up to the 'Doover' and fired it up for me so that I could see it in action. It was very impressive and nice to have a fuss made over us. Personally, I felt proud of them and their attitude which made me feel confident in them if any action is needed by them. The manager of the Caravan Park said that they were well behaved and I am positive that the members of the Unit were good Ambassadors for the RAAF."

MINISTER FOR DEFENCE MEDIA RELEASE FRIDAY 8 NOVEMBER 2002

First Wedgetail antenna completed

Defence Minister Robert Hill today welcomed the completion of the first Radar and Identification Friend or Foe antenna for Australia's new Airborne Early Warning and Control aircraft.

The multi-role electronically scanned array antenna, which was designed, manufactured and assembled by Northrop Grumman Electronic Systems Sector in the United States, will be the primary

sensor system aboard the Boeing 737 AEW&C aircraft being produced under the Australia's \$3.45 billion Wedgetail Project. Senator Hill last week saw the first 737 airframe roll fresh off the production line at Boeing's Military Flight Centre in Seattle, United States.

The antenna is designed to detect air and sea targets simultaneously and will allow the AEW&C crew to control the aircraft while continuously scanning the operational area.

Senator Hill said the radar detected and accurately located aircraft and boats at long range and would provide a capability that is critical to Australia's border protection.

"The new antenna exploits leading edge technology which will include full 360 degrees surveillance coverage," Senator Hill said. "It will be extensively tested over the next five months at the Northrop Grumman test range in Baltimore before being installed on one of our new AEW&C aircraft."

The AEW&C fleet can perform a range of tasks including air defence, over-the-horizon targeting, search and rescue, battlefield surveillance and civil support operations - such as coastal surveillance. They will also be interoperable with our key coalition partners and provide a valuable niche capability for future coalition operations.

Under the terms of the contract signed with Boeing in December 2000, Defence will be acquiring four AEW&C aircraft with the option of purchasing an additional two or three aircraft at pre-agreed prices. The fleet is expected to be in service in 2007.

Project Wedgetail is under budget and six months ahead of schedule, with the first AEW&C aircraft due to fly before the end of the year.

BOOK REVIEW

A new radar book, "RDF1", by Michael Bragg is now available. The 'Battle of Britain' was over sixty years ago and there is no

doubt that it was a major turning point of the twentieth century. It had been nearly a thousand years since England's last invasion, but in 1940 the mighty German forces, flushed with military successes, were poised in France to strike across the English Channel. It seemed that nothing short of a miracle could prevent a successful invasion. But a miracle was in the making. The primary thing that stood in Germany's way was the gallant Royal Air Force, but it was woefully lacking in resources. With extraordinary foresight, men of vision and technical competence had anticipated this circumstance, and had developed and were deploying a highly secret ground-based advanced warning radio-location system, then known as RDF, but now known as RADAR. However, there was no way of knowing with certainty that this secret system, which was still in the development phase, would be able to perform adequately in the face of the massive and determined bombing attacks that were sure to come. But perform, it did, and the miracle happened.

Radar alone could not shoot down planes, but it enabled Fighter Command to conserve precious aircraft and fuel and to rest pilots by keeping the planes on the ground until the enemy aircraft were known to be approaching the coast. It also played a major role in Civil Defense by providing the public with advance warning of impending air raids. Prime Minister Winston Churchill credited the radar system with being a major factor in winning the 'Battle of Britain'.

Winning the 'Battle of Britain' essentially eliminated the danger of a successful invasion, but there was a larger war that had to be won. The tables had turned, and with America's entry into the war, it was time to take the war home to the Germans. There was still the important task of protecting the cities, the civilian population, the military facilities, the production facilities, and the harbours and shipping in coastal waters from

continued air attack. During the remainder of the war, the radar system was continuously augmented and improved, and its existence was a deterrent that reduced the number of air attacks.

The building, staffing, maintenance, and operation of the many radar stations and the associated data handling (filter rooms) were engineering and management challenges of the most formidable kind that had ever been undertaken by government departments and has never received the recognition it deserves.

This book tells the story!

From the book's jacket "RDF1" is a comprehensive coverage of the political, technical, and operational aspects of the radar systems from the beginning of British ground-based radar in 1935 until the end of the European War in May 1945. Many years of research went into the writing of this book. It is not only well illustrated and interesting to read, but because of its wide scope and documented coverage it serves as an excellent reference book on this subject. A technical background is not necessary for the enjoyment of this book. Every person, library, or other organisation having an interest in this subject should obtain a copy. The book contains 400 pages of text and 32 additional pages of illustrations.

How To Order

Buyers outside of the UK can pay for the book online through "Paypal", which is a convenient, secure, and reliable means of making payments directly from a Credit Card or Bank account. The person making payment must register with Paypal, but this is free, and is also useful for making other payments on the Internet.

The price of the book in the United States is \$35.00 for delivery by air mail. The price for delivery to other countries can be obtained by sending an e-mail to the author at MIKERDF@aol.com.

To make the payment (and thereby order the book), use the internet

link below. The payment is to be made to: MIKERDF@aol.com Paypal provides clear, simple instructions.

<http://www.paypal.com>

Feedback

The author would appreciate receiving feedback concerning the book. Please send it to him at MIKERDF@aol.com.

RECENT PIECES OF INFORMATION

It is unfortunate that a copy of G/Cpt Chamberlain's report of 12/2/44 held in English Archives as PRO AIR 20/6071 was not, and still has not, been located in Australia. Our only enlightenment came from a reference in the Canadian *Radar Reflections* published in 2000. Regrettably it was not seen until after T & G was produced. His statement "**height measurement as being a facility markedly absent from Allied radar systems in the SWPA**" is totally wrong! Or have I taken his report too literally? One of my confreres went as far as declaring it to be bullshit.

One wonders who in Australia was advising Chamberlain. By the end of 1943 the RAAF had established 8 MAWDs, 9 GCIs, 9 ACOs all with height-finding (to an accuracy of ± 1000 feet) and 66 fixed stations with an elementary form of height assessment after calibration was carried out (flying in and out of lobes).

Mould in Radar Sets

A friend in the USA recently located a copy of a book called *The Great Experiment*. It was written by the Chrysler Corporation and tells the story of how this car company built the SCR584 for the US during WWII. On page 48 is a short piece about mould. The deadly enemy of wiring insulation was an *Aspergillus* species, a cousin of bread mould and the then magic penicillin. The spores of this mould would germinate in the tropics in ordinary insulation much as weeds do in a well-kept vegetable garden. This mould has a nasty habit of building up an

immunity to any fungicide quickly; what kills it one season may be harmless the next.

A Theory on Why We did not get Adequate Food in the Field

In a recent documentary on the ABC they showed how the Americans and the Germans used Hollerith cards for data processing. IBM or the International Business Machine Company was the manufacturer and distributor. The Americans treated every serviceman as a 'statistic', which was coupled with his unit and its location. So sorting the cards gave them the basis for food distribution.

An article in the *Sydney Morning Herald* said that the Australian Army still cannot supply adequate food to isolated units and was seeking consultants to introduce a system.

Ed Simmonds [NSW]

60th ANNIVERSARY OF RADAR PLAQUE

During the 60th Anniversary Reunion of RAAF Radar-Air Defence in March 2002, the Radar Air Defence Branch President presented a Bronze Plaque to Air Commodore David Pietsch, Commander Surveillance and Control (S&C) Group RAAF Williamtown.

The Plaque is now mounted on a specially constructed wall located at the entry to the "Tex Watson Building", which houses the Eastern Region Operations Centre (East ROC).



ROYAL AUSTRALIAN AIR FORCE. DYING ORDERS.

Discipline - Dying

It has been brought to the notice of Department of Air, that members have been dying without the consent of their superior officer. This practise is to cease forthwith. It is to be fully understood by all ranks that the manpower shortage is still acute, and any man who dies without obtaining a permit commits a very serious offence.

Extract AFO 12/Z/25 Dying - Control of.

The following drill movements are to be complied with by all ranks of the Royal Australian Air Force.

1. No rank below that of Corporal may give the order "DROP DEAD".
2. The man ordered to die will be known as the "Victim".
3. Under no circumstances will a member be allowed to die in his own time, and all victims will adhere to the following routine.
 - (a) On receipt of the command "DIE" by numbers "VICTIM" 1. The member will stagger forward a full pace of 30", followed by two short paces, one of 28½" - and one of 27½" and at the same time will allow his eyes to glaze.
 - (b) On the command VICTIM 2, he will sink slowly but smartly to his knees, counting the correct pause of "two - three - down", then fall forward on his face, arms outstretched, thumbs in line with the ears.
 - (c) In his own time the victim will draw his last breath (using form E/A47 Consumable Counterslip)
 - (d) On the command "3" the victim will flow his legs and heels to rest on the ground, toes at an angle of 30° Magnetic, to the shoulder blades.
 - (e) The last breath will consist of two units of oxygen, (See RAAF scale of Weights and Measures)

N.B. The death rattle will not be used except on Ceremonial Dying Parades unless otherwise ordered by an officer of Wing Commander or above.

Procedure Before and After Dying

4. Before dying all ranks will obtain a clearance from their units on RAAF Form E/A32 Clearance Certificate, and will draw from the Intelligence Officer, a map showing the most direct route to Heaven. This route will be strictly adhered to. Unexpired rations for the day may be drawn and consumed enroute.
5. There will be no overtaking on the road to Heaven, and any officer who is passed on the way to the subterranean depths will be paid the usual compliments.
6. On arrival at your destination, you will report to the Adjutant Base Squadron Angelification. You will then be issued with the following items:
 - (a) Harps Basic Playing - 1 off.
 - (b) Strings Basic Playing - 2 off.
 - (c) Wings Feathered White - 1 pr.
 - (d) Cloud Fleecy or Cumulus - 1 off.
7. Wings will be cleaned daily with Goddards Stardust No 3. Harps will be kept highly polished and at all times will be in tune and ready for playing. Clouds will be checked for condensation and filled with Anti-freeze whenever necessary.
8. One hour after arrival you will parade on the main cloud parade ground for issue of HALO GOLDEN EVERBRIGHT Mk1. This is not allowed to become too tight.
9. Dress at all times is to be Sheet Body Wrapping White. These may be obtained- from the Barracks Store on arrival and there after changed weekly on the first Singing day, after Heavenly Choir Practice.

Just keep the above directions in mind if you intend to attempt an early entry into Faded Echoes!