

# RADAR RETURNS

## ECHOES FROM THE PAST AND PRESENT

"If I had to give credit to the instruments and machines that won us the war in the Pacific I would rank them in this order: submarines first, radar second, planes third, bulldozers fourth"

*Fleet Admiral William F. Halsey USN - 1947*

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### Editorial

The quote that heads this edition is in stark contrast to the one that began the last edition.

Admiral Halsey held radar in very high regard and made constant references to it in his memoirs entitled 'Admiral Halsey's Story'. He provides numerous examples where radar either provided the deciding factor in a battle or saved his ships' from detection. If you have the opportunity, see if you can find this book in a library as it provides another perspective on the war in the Pacific.

Continuing the theme of books - this edition of Radar Returns contains a review of the book 'Truscott' by John & Carol Beasy. Ted Dellitt was kind enough to provide this column which also contains a special offer if you are considering purchasing the book.

The classifieds section also has the details on some other publications which you may wish to add to your collection.

'Under It Down Under' provides a W/T operator's view of life on Home Island early in the war, while 'Marine Section' should provide some more memory stimuli for those radar veterans who were resupplied by these unique RAAF units. (It is not be very often that you join the RAAF and get paid to sail a two masted schooner around the SWPA.)

The Faded Echoes column still receives entries in each edition. In this edition, there is an entry for an individual who may have appeared as a 'Fading Echo' on you radar screens in the days past. He leaves behind an intriguing story of flights over Sydney and the United States. After reading the article and you are interested in more details of this man's exploits, I have a more detailed article from the United States that may be of interest.

There are rumours circulating at the moment that there may be another Radar Reunion in the future. At the moment these plans are only in the preliminary stages but, when we have something more definite, you will hear about it in Radar Returns.

As this year draws to a close, we are getting closer to leaving Canberra and setting up house in Brisbane. Please note the new address for Radar Returns if you wish to send in any comment or answers to some of our questions.

We depart Canberra on the 4<sup>th</sup> December and will be in Brisbane on the 8<sup>th</sup> December. If you happen to be in the area, please give us a call.

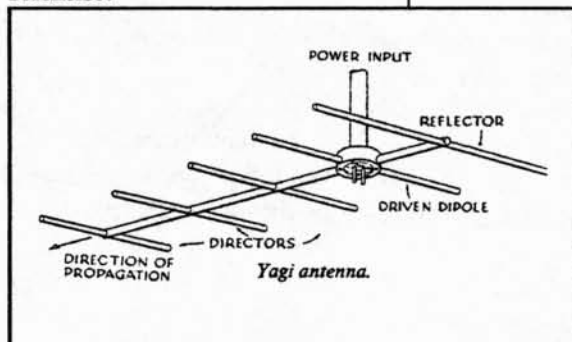
Merry Christmas and a Happy New Year to all. You will hear from us again in 1998.

**Pete Smith**

## Yagi-Antenna

Since its invention, the Yagi antenna has been employed in any number of applications employing radiated power.

The Yagi-Uda antenna has been extremely important in numerous applications, such as radar, television and shortwave radio that involved the higher frequency ranges (especially between 100 and 1000 megahertz). There were forms of this antenna used in the development of radar throughout WWII, particularly in airborne systems. How many people know what a yagi antenna is and where did it come from? How many people realise that this antenna system, used so effectively by the allies, was in fact invented by a Japanese scientist?



An antenna that radiates power in all directions may sometimes be appropriate, but in the vast majority of cases it is preferable to confine the radiated energy in a particular direction. One of the most effective directional antennas of this type is the Yagi-Uda antenna. It combines a single driven antenna with an array of passive elements, called directors. These directors radiate energy after receiving power from the adjacent elements. This design makes it possible to achieve high directivity while employing a

compact antenna. This reason alone made it the antenna of choice in airborne systems where the weight of equipment was a critical factor.

The designer, Hidetsugu Yagi, was born in 1886 and received his engineering degree from Tokyo Imperial University. He then continued his studies in Germany, England, and the United States. Shortly after World War I Yagi initiated a radio research program at Tohoku University in Miyagi, Japan, and in the early 1920s one of his advanced students was Shintaro Uda. In 1926 Yagi and Uda jointly published a paper describing a new antenna. The work came to international attention mainly through an English language paper that Yagi published in the Proceedings of the IRE in 1928.

(The Institute of Radio Engineers (IRE) joined with the American Institute of Electrical Engineers in 1963 to form the IEEE.) This invention came at a crucial time when

new valves permitted radio transmissions at higher frequencies.

In recognition for his contribution to antenna design, the IEEE Tokyo Section held a dedication ceremony on 17 June 1995 at the Tohoku University. The plaque citation reads as follows:

*Directive Short-Wave Antenna.* In these laboratories, beginning in 1924, Professor Hidetsugu Yagi and his assistant, Shintaro Uda, designed and constructed a sensitive and highly directional antenna using closely coupled parasitic elements. The antenna,

which is effective in the higher frequency ranges, has been important for radar, television and amateur radio.

Source: IEEE Centre for the History of Electrical Engineering Issue 42 Newsletter.

## Q&A

### Radar Operator Training

Although most Radar Mechanics can remember the equipment they were trained on at Radar School, can any of the Radar Operators recall the equipment employed for their training? Was this equipment part of a functioning radar or was it part of a simulator system?

In addition to radar training, how much training did Radar Operators receive on the use of the radio sets at each unit (normally an AT5/AR8)? Did you receive any morse code training or was all the radio transmissions left to the W/T Operator?

### Fighter Controller Training

At the end of the war all controller training was curtailed and most of the equipment was dispersed around the countryside. In 1955, the RAAF began building it's first post-war radar establishment at Brookvale NSW. This unit became known as ICRU and was the main radar training establishment for some years. However, the first mention of Fighter Controller training at this unit was on 25 February 1957 when No 4 Fighter Control course commenced. What happened to the other

three courses? Were they conducted at 1CRU and not recorded or were they conducted elsewhere? If they were not conducted at 1CRU, how was the training carried out and on what equipment?

## BOOK REVIEW

For this edition, Ted Dellitt has provided a review of the book dealing with the airfield at Truscott. We are finally beginning to see more general histories of war time Australia which do mention and discuss radar.

I have also received a number of other publications that will also be reviewed in following editions. Time has not allowed me to provide a detailed review of these publications, however, you may wish to seek out these publications yourself in the meantime. Both of these books were provided as the result of the generous support of Prof John Bennet AO. Although they are not directly related to RAAF radar, the following two publications do provide another perspective on the development of radar during WWII. They were produced from some very detailed research and contain a significant amount of technical information on the development and production of radars employed by the Royal Navy. Some of the systems mentioned in these books were used in the SWPA and derivatives even ended up being used on land. The publications are:

### *RADAR*

*The Development of Equipment for the Royal Navy 1935 - 45*

Edited by F.A. Kingsley for the  
The Naval Radar Trust  
Published by MacMillan Press  
ISBN 0-333-61210-8

### *The Application of RADAR and Other Electronic Systems in the Royal Navy in World War 2*

Edited by F.A. Kingsley for the  
The Naval Radar Trust  
Published by MacMillan Press  
ISBN 0-333-62748-2

## TRUSCOTT

By John & Carol Beasey

This book is produced in the form of a day to day diary of events involving the 'secret' airbase in the Kimberley area during World War II. It spans the period from August 1943, when the first surveys were made, until March 1946 when the RAAF finally abandoned the base.

The significant appeal of this book is that it covers the activities of all the military units and civilian organisations which were in the area (RAN, AMF, RAAF, US Forces, Drysdale Mission and Allied Works Council). The events are correlated so that one is presented with an exceptional overview of the activities at this base. The Radar Stations in the area are not ignored and 154RS, 161RS, 317RS, 319RS and 399RS all receive honourable mentions. No 44 Radar Wing and RIMUs also rate a mention but 44 Wing is incorrectly shown in the index as '44 Radar Station'.

The authors had access to the official war diaries and unit histories of all the units that operated from the Truscott area. The summary of activities is accompanied by recollections of many of the veterans who served in the area. One of the major

contributors is a well-known member of the radar veteran fraternity - Morrie Fenton. Morrie receives singular praise from the authors in the 'Acknowledgements' with the statement: "An extra special debt of gratitude is owed to Morrie Fenton whose unwavering support and friendship has been the deciding factor in the quality of our work."

The book is soft covered but quite large. It is A4 in size with 303 pages, which includes a comprehensive index, over 150 maps, plans and photographs. Many of the photographs are from private sources. (After seeing these photographs and those within the Radar Archives, I wonder if anyone actually policed the regulations concerning the use of private cameras at operational units!)

This is a most informative and interesting book as it provides a view of the 'big picture' of activities occurring in this part of Australia during the war.

An example of the more intriguing items are:

- the number of missions which were cancelled because of an ASV radar failure. At the beginning of the war the 'Jesus Box' was treated with suspicion but by the end of the war aircrew would not fly unless the radar was fully serviceable.
- the number of 'high powered' visitors who visited the region. They ranged from members of parliament to the CAS to Area Hygiene Officers.
- the fact that the combined 318/154RS Cricket Team were the District Champions.



This is a book that should be read by anyone who either served in the area or who has an interest in the military activities in the NW of Australia. Radar Veterans who served in the area should gain a better impression of all the activities that were occurring while they were there and how their contributions fitted in to the 'big picture'.

The book may be purchased from the publishers:

Australian Military History  
Publication  
13 Verona Place  
LOFTUS NSW 2232  
Ph 015 284 760  
Fax/Ph (02) 9521 6515

The best news is that if you mention "Radar Returns", the publishers will provide the book to you for the price \$30.00 which includes the cost of postage and packaging.

## FADED ECHOES

Unfortunately, this column of Radar Returns always has entries for each edition. As well as having some more familiar radar veterans, the final entry was someone who may not be known to the reader, but he was one of the more famous radar 'blips' during the war.

**Eric Brindle (QLD).** Eric passed away on 3 Oct 97. As well as serving on 335RS, he was one of the active members of the Queensland Radar Branch.

**Stan McKaysmith (NSW).** Stan died 11 June 1997 after a long battle with diabetes.

## Dr Henry H. Milvain (VIC).

As a result of bowel cancer, Harry died on 19 August 1997, aged 81 years. Harry was one of the 'Bailey Boys' and served as Commanding Officer on 17RS, 23RS, 38RS, 319RS and 321RS. He was also the last CO of 319RS when it ceased operations at Truscott in September 1945. Since the war, he operated a very successful Medical Practice in Kew VIC. He was a strong supporter of the Victorian Branch Reunions and marched with the Radar Veterans in Melbourne every ANZAC Day.

## Frederick Castelli (NSW).

Fred was an ex-RAAF WOff who died on 28 May 1997 at 80 years of age. Fred was the station clerk at 308RS Millingimbi and 319RS Drysdale.

**Nobuo Fujita (Japan).** Unusual coincidences do happen at times!

The last edition of Radar Returns featured the AVM Jones quote concerning the Japanese flight over Sydney in 1942. Not very long after this edition 'hit the presses', an obituary appeared in the Sydney Morning Herald which added more information concerning this event.

The obituary was for Nobuo Fujita (1912-1997), the Japanese Warrant Officer who flew his two-seater reconnaissance plane over Sydney in 1942. Not only did he fly over Sydney, he also flew over Melbourne and Hobart in the same period. He was also the only Japanese pilot to drop bombs on the mainland United States.

When he flew over Sydney, he and his observer counted 23 vessels at anchor. As he continued east, he grew increasingly apprehensive as he "was worried the anti-aircraft guns would open up at any moment. I was in a hurry to get away. But the plane was very slow. It wouldn't go any faster. I must confess I was shaking."

In September of the same year, he flew the same floatplane over Oregon on the west coast of the United States. Carrying two incendiary bombs on specially fitted wing racks, he flew 80 km inland and released the bombs over the Oregon forests. He hoped that the incendiaries would start forest fires. Fortunately, the area was too wet from recent rains and no damage resulted.

He may have had a different result if he had attempted to achieve the same objective in Australia. At the time of his flight over Sydney, the bush was tinder dry. The NSW Commissioner for Forests had warned in December 1941 that the bushfire threat was "extremely grave".

Nobuo Fujita died of lung cancer in a Tokyo Hospital. He was aged 85 years.

## Tales From The A50s

The following entries are direct transcriptions from the official unit A50 history sheets. Not all the A50s recorded just routine activities or acted as a local visitors' books.

**332RS Kranket Island**

10AUG45 Wireless vigil rewarded by receipt of news that Japan had "received" the atomic bomb and are willing to capitulate. Major drawback of celebration being only one bottle of cheer per man on Kranket Island.

11-14AUG45 Who wants to work !

15AUG45 Official news picked up at 9 am that the war is over.

16-21AUG45 Major topic of conversion - "When are we going home."

31AUG45 Will exchange one radar station complete for passage to Australia of one officer and 29 airmen.

*[All of the above entires were signed off by Commanding Officer - FlgOff B.P. Baker]*

**341RS Mulgrave Island**

At 0130 hours 15 Mar [45] the Commanding Officer FltLt M.W. Gunn was attacked by a 13 foot rock python, whilst sleeping. The snake attacked through the [mosquito] net biting [his] left foot, left hand, and finally fastening onto [his] right elbow. After a 5 minute struggle the snake was torn off, and the CO bailed out of the window in pitch darkness trying to free himself of the mosquito net, and shouting for assistance. The snake was shot 30 minutes [later] whilst the CO was receiving medical treatment. The right elbow was severely lacerated and bruised, four teeth being removed after much difficulty.

At 2300 hours [16 Mar 45], an airman whilst groping in his darkened tent for toilet gear, disturbed a 15 foot python coiled on his table. He evaded the snake's attack, and after a torch was secured the snake was killed with a crowbar. Since the

reduction of the unit's personnel, snakes are becoming more prevalent around the camp area. The rock pythons found in this area have proved more ferocious than in other localities.

**326RS Broome**

The fifteenth of August must go down as the most eventful day ever spent at 326 Radar Station. The CO disturbed a quiet night by clamouring for medical attention at 0100 hours. He had discovered a centipede in his pajamas - and the centipede won the first round of a two round contest.

*[One's bedtime companions obviously varied from unit to unit but always seemed to provide entertainment for most members of the unit. I wonder, was the CO the only one affected by these activities or did he just provide the most entertainment value.]*

## Mailing Address

Please address all correspondence for Radar Returns as follows:

**Postal Address:**

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18 Pandian Crescent  
BELLBOWRIE QLD 4070

For the technically minded:

**E-Mail Address**

Radar\_Returns@Hotmail.com

## CLASSIFIEDS

### **"Under It Down Under" at Horn Island**

Radar and W/T installations on Horn Island were vital in 1942 with the USAAC Flying Fortresses and RAAF squadrons operating out of the island. W/T Operator Jack Woodward was one of the RAAF's ears and eyes on the island in 1942.

Jack has published a 291 page book which contains amusing anecdotes and war time stories which anyone who served up north will relate to.

The book is available from Jack for \$23.50 (includes postage) by writing to

Mr J. Woodward  
PO Box 224  
Pennant Hills NSW 2120

### **Sailors of the RAAF**

#### **Known as the "MARINE SECTION"**

At last a book has been published that acknowledges the very important role played by the Marine Section of the RAAF. Quite a few Radar Veterans would recall being taken to their remote location on boats manned by Marine Section Crews. Who could forget the large two-masted Ketch "YALATA" that carried No. 39, 46, 60, & 61 Radar Stations to their isolated secret locations and then carried out resupply voyages.

Marine Section Refuelling Barges & Bomb Barges were also involved in preparing the Flying Boat Squadron aircraft for strikes or patrol while their Crash Boats cleared the take off run. They also laid flight paths for night flying and took Ground Staff to the aircraft to carry out necessary servicing. These M.S. personnel operated Air Sea Rescue Boats, sailed large Ketches and Schooners carrying supplies, equipment, bombs, ammunition

& personnel to secret Bases, operated Landing Barges at places like West Bay (Truscott), Millingimbi and Melville Bay. These visits kept these bases functioning.

"I can highly recommend this very large book for it has over 360 quite illegal wartime photographs, many maps and drawings." Keith Backshall, Karrinyup, WA.

Available from the Author for \$17.00 plus \$6.50 postage interstate and \$5.50 postage for WA

Mr. L.R. Jubbs  
17a Chessington Way  
Kingsley 6026  
Western Australia.

### **Fenton Publications**

Morrie has produced two new publications and they are now available for sale for \$5.00 each (includes postage). The new titles are:  
321RS Yirrkala (Gove)  
The Mobile GCIs of RAAF Radar

Both of these books maintain Morrie's high production standards and they provide more information on the activities of Australia's radar units. If you wish to purchase these two publications, just send you order and payment to:

M.E. Fenton  
27 Lasscock Avenue  
LOCKLEYS SA 5032