

Field Unit 12 Takes New Technology to War in the Southwest Pacific

Kevin Davies

By making an emerging technology work to good effect, the men of Field Unit 12 contributed to the evolution of technological intelligence in modern warfare.

From 1943 to 1945 a small unit of Australian soldiers—Australian Military Force Detachment, Field Unit 12, Section 22, General Headquarters, Southwest Pacific Area—deployed into the field to provide electronics intelligence (ELINT), in its infancy then, to the Southwest Pacific Area of the Pacific Theatre of Operations against the Japanese. Over time the detachment evolved into a commando unit and provided valuable support, including combat support, to US and Australian forces fighting in the theatre.

Electronics Intelligence (ELINT), as defined by Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms is “technical and geolocation intelligence derived from foreign non-communications electromagnetic radiations emanating for other than nuclear detonations or radioactive sources.”¹ One of the most common sources of ELINT comes from the collection and analysis of radar signatures. By analysing the characteristics of pulses emitted by a radar (frequency, pulse repetition interval/frequency, beamwidth, scan rate etc.), it is possible to identify radar types, functions, and locations. With that information, countermeasures can be developed.²

ELINT and electronic warfare (EW) evolved with the technological

advances throughout World War II in Europe. From the Battle of Britain to the strategic bombing campaign over Germany, a constantly evolving electronic arms race took place as the Western Allies and the Germans developed new ways to detect, deceive, or destroy the fleets of enemy bombers heading toward each other's cities. In both the European and Pacific Theatres of Operation, ELINT and EW provided vital support to Allied forces by detecting enemy aircraft, ships, and submarines long before the enemy could detect them.

Much of this development, especially for the Pacific Theatre, involved aerial reconnaissance using long range aircraft. But the great expanses of the Pacific and the limited loitering times of aircraft left the need for ground-based ELINT teams that could be deployed near island battlefields and remain in place and operate 24 hours per day to guard against approaching Japanese ships and aircraft.

During 1943–45 a small unit of soldiers from the Australian Army was trained to provide ELINT/EW support in the field, sometimes very close to enemy lines, in order to collect Japanese radar signatures, radar, and radio sets and to warn Allied units of approaching enemy air and sea units. With time and experience, Field Unit 12 evolved into a

All statements of fact, opinion, or analysis expressed in this article are those of the author. Nothing in the article should be construed as asserting or implying US or Australian government endorsement of its factual statements and interpretations.

Section 22 consisted of personnel from Australia, Britain, the Netherlands, New Zealand, and the United States.

commando unit capable of providing combat support when needed.

Field Unit 12 (along with a counterpart, Field Unit 14) would play an important role in the retaking of the southern Philippines and demonstrated a remarkable ability to work closely with Allied fighting forces, both professional and irregular. The unit's history may not contain acts of epic bravery, cataclysmic battles, or tremendous sacrifice, but it is a story of a small group of soldiers who did their duty to the best of their ability and who, in their own small way, paved the way towards victory. And, by making an emerging technology work to good effect, the men of Field Unit 12 contributed to the evolution of electronics intelligence in modern warfare.

Section 22

Field Unit 12 was one of at least two ELINT collection units (the other was Field Unit 14) subordinate to Section 22, a cover name for the Radio Countermeasures Division intended to conceal the highly sensitive and classified nature of the division's work.^{a3} Established in Brisbane in July 1943, Section 22 was "responsible to the Commander-in-Chief, S.W.P.A., for radio counter measures, its chief duty being to advise all Force Commanders on action taken to interfere with and evade enemy Radar." Section 22 consisted of

a. In addition to the cover name, Section 22 used the codeword 'SNARK' when sending messages to-and-from its field officers.

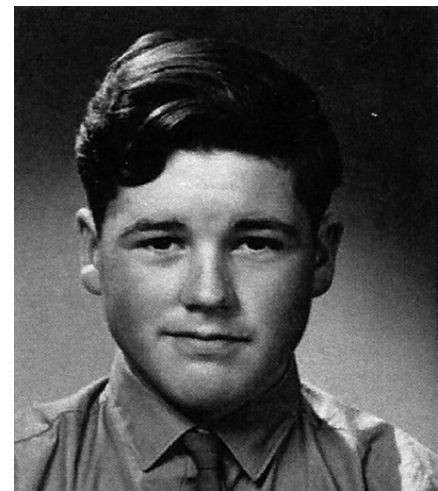
personnel from Australia, Britain, the Netherlands, New Zealand, and the United States.⁴

Part of the Directorate of Radio direction-finding, Section 22 reported to Brigadier-General Spencer B. Akin, Chief Signals Officer in Gen. Douglas MacArthur's GHQ SWPA. The first assistant director was LtCmdr Joel Mace, Royal Australian Navy Volunteer Reserve (a minute by the Director of Naval Intelligence in May 1944 described his leadership style as 'hard, tactless... had built up a sound organisation').⁵ Following his departure in January 1944, Col. Paul W. Albert, US Army (called an 'ineffective "play-boy"' in the same minute), replaced him.⁶ Records of Section 22's field organisation could not be found, but reports of the US Army Signal Corps and the Royal Australian Air Force establish the existence of Units 12 and 14 and contain suggestions that strongly indicate Section 22 controlled other subordinate units, though they are not identified.⁷

Establishment of Field Unit 12

Secret Message 25945 established Field Unit 12 on 12 November 1943 with positions for two captains, two lieutenants, one warrant officer, four sergeants, eight corporals and 19 privates. The unit never reached its complement of 36, however, and at no point had more than 20 men.⁸ According to Field Unit 12 post-war summary of activities, personnel selection was based on "general intelligence and infantry training. Technical

ability not required," with potential candidates interviewed at training schools.⁹ By 8 January 1944, the detachment was operational.¹⁰ Beyond the numbers, dates, and a few names, no organisational table for the unit has been found. Capt. Donald Tier, a New Yorker who had emigrated to Australia, served as the detachment's first commanding officer and liaison to SWPA headquarters. A warrant officer, Ralph Wilson, was the statistics officer, presumably responsible for maintaining the quality of the technical data on Japanese radars and radios the unit collected.¹¹



Donald Tier in an undated photo—though most likely early in the war.¹²

Operations

The detachment's first deployment was to an island off the north coast of Papua New Guinea between January and April 1944. This was an experimental and operational activity undertaken to provide a real-world test of the new unit's capabilities. Its mission was to detect Japanese land radars in the area surrounding the Bismarck Sea above New Guinea and to gauge the level of Japanese

shipping activity in the region while Allied forces were engaged in the long-running fight to dislodge Japanese forces from the land mass.¹³ The detachment deployed—by plane and sailboat—to Long Island off the north coast of New Guinea with two officers and 13 enlisted men. They took with them an SN-2 receiver and other Australian-made pulse analysing equipment.¹⁴

Its experiences on this assignment would lead to significant improvements in its equipment and organization. First, finding a suitable operational site proved to be more difficult than anyone seemed to have expected. The plan called for locating a base camp near a village whose residents were expected to help carry the gear from sea-level to an altitude of 3,000 feet. Unfortunately, according to the detachment's *Summary of*

Activities, "Since the natives were unwilling to part from their village the choice [of sites] was limited and no suitable site was found."¹⁵ Only on a third reconnaissance patrol was the team able to locate a suitable site, although there was insufficient water for the whole detachment.¹⁶

Despite this shortcoming, development of the site began in earnest. Construction of a platform took six days, and when it was completed, equipment began to arrive and testing began. After two days of successful testing, the remaining equipment was brought so collection operations could commence. Because of the lack of water, only technical operators stayed at the site. The remainder stayed at the base camp, conducting patrols to protect the site from enemy attack, although no enemy troops were encountered.¹⁷

Bad weather delayed the gear's arrival by three days, and two more days were lost as water and moisture from the heavy rain seeped into the delicate electronic equipment. Despite the initial setbacks, the detachment collected signals for five weeks. In that time, the unit detected two land-based radars near New Britain, one in the Admiralty Islands, and it collected the radar signatures of several Japanese ships. Counting the mission a success, the detachment returned to Australia.¹⁸

Lessons Learned and Refit

Despite its success, the problems the unit encountered led to a major restructuring. According to the war-end report:

Upon return to the mainland the fundamental conception of the unit was altered, the personnel given additional training and the equipment completely changed. The detachment then consisted of specially trained personnel of the commando type capable of operating radar counter-measures equipment, of carrying all their own equipment themselves, living solely by their own resources whilst on duty and relying only on airborne supplies at periodical intervals.¹⁹

For the next six months, the detachment trained in Queensland in order to become the "commando type." Training included learning jungle and guerrilla tactics, assault landings, and river crossings.²⁰

In addition, the detachment trained in the art of attacking radars

Papua New Guinea



Note: Main map displays 1944 boundaries and names.

DI Cartography Center/MPG 912428ID 8-14

and radar stations. In order to prevent a repeat of the lack of support in New Britain, they spread the entire equipment load amongst the 15-strong detachment, with each man carrying between 76–92 lbs (34.5–42kg).²¹ The detachment acquired lightweight operating tents, special packs, and developed a collapsible aerial system. All equipment was weighed, and any component not considered essential removed. New collection equipment enhanced the detachment's capabilities as the American-made AN/APR-1 receiver and AN/SPA-1 pulse analyser replaced Australian radar collection and analysis equipment.²²

Into Action in the Philippines

Mindoro

With new training and equipment, it was time for the detachment to go back into action. From 9–16 October 1944, the detachment, now consisting of three officers and 17 enlisted, left Brisbane for Hollandia, Dutch New Guinea (now Jayapura, Indonesia) to prepare its next mission, which it would later learn was to deploy to Mindoro, Philippines, and provide early warning of Japanese aircraft and ships heading for San Jose, Philippines, to attack the US forces based there.²³

The unit remained in Hollandia until 28 November 1944, when, with one less officer, it embarked on a small US amphibious landing ship for San Pedro Bay in Leyte, Philippines. They arrived on 6 December 1944.²⁴ At San Pedro Bay, the detachment received its orders.

The detachment's second in command and an enlisted man—a Lt.

Rose and a Pvt. Marquette—left on 11 December 1944 for their destination in advance of the full detachment, presumably to scout locations. They arrived in San Agustin, Mindoro, four days later, as the Battle of Mindoro—Operation MUSKETEER III—raged. Rose and Marquette became the first Allied soldiers to enter San Jose.²⁵

The remainder of the detachment arrived in San Agustin a week later. Repeated air attacks, including two near misses from kamikazes, made the landing ship's voyage an eventful one. During the attacks, the detachment helped gun crews fight off the Japanese, gaining valuable experience operating under fire and praise from the ship's gun crew.²⁶

On 23 December 1944, the detachment moved to Ilin Island, south of Mindoro, where it appears to have begun a string of hops from one Philippine island to another. On Ilin Island, the detachment set up its equipment, was somehow involved in the capture of a Japanese pilot, and enjoyed "a Christmas repast comprised chiefly [of] native foods." Even so, it took only two days to complete the setup and begin operations.²⁷

The unit's first test came quickly in the form of enemy warships approaching San Jose on Boxing Day. The unit detected the ships in time to provide two hours warning before San Jose was subjected to a 90-minute bombardment. Because of the

Philippines: Luzon



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warning, little damage was done, and Allied aircraft and patrol boats were able to counterattack before the Japanese warships were able to get into good firing positions. In addition, the Japanese lost two ships.²⁸

Two days later, two members of the detachment were evacuated to Australia for medical treatment; whether put out of action by the "native" food or Japanese bombardment was left unclear.²⁹

On 14 Jan 1945 the detachment left Ilin Island, having recorded no further enemy contacts, and returned to Mindoro, sleeping on San Agustin beach that night.³⁰

Luzon

Three days later the detachment deployed to Marinduque on Luzon with a new mission "to locate enemy land based radar on southern Luzon, to determine the amount and type of enemy shipping in that area and to intercept and locate if possible enemy radio engaged in lower echelon traffic preparatory to the landing on Luzon."³¹

Having selected a site with an altitude of 1,400 feet, the detachment was able to detect targets 110 miles (176km) away and was able to collect and identify 180 enemy radio stations and five radar sites. The detachment also established secondary sites to use direction-finding techniques to locate enemy locations.³¹

Members of the group appear to have gone to Luzon Island to retrieve destroyed Japanese radar equipment found on Grande Island in Subic Bay and take it to Leyte.³³ On 7 February 1945 the detachment, and one Japanese civilian prisoner, departed Marinduque, headed for Mindoro,

where, its missions accomplished, it would rest for five days.³⁴

Tawi Tawi

As it rested, the detachment was warned to prepare for its next mission, which would prove to be its greatest test—and greatest validation.³⁵ On 21 February 1945 Captain Tier and five enlisted from Field Unit 12 were joined by an officer and five enlisted from Field Unit 14. They boarded two Catalina flying boats for Tawi Tawi, an island province separating the Sulu Sea and Celebes Sea between Sabah, Malaysia and Zamboanga, Philippines.³⁶

The mission was essentially the same type as that performed at Marinduque but more significant. It was to provide ELINT support to

the US Sixth and Eighth Armies as they prepared to retake the southern Philippines. This was part of a combined assault against the southern Philippines, by the US and Australian Armies, on the Dutch East Indies, in Operation MONTCLAIR III. The attack on the southern Philippines was designated *Victor*; while the Dutch East Indies attack was designated *Oboe*.³⁷

After arriving on Tawi Tawi, an advanced party spent the day pouring over maps to find a suitable collection site. After a reconnaissance the following day, the party selected Balimbing Hill, in Balimbing (now known as Panglima Sugala) as a suitably elevated location for collection coverage of known enemy positions

Philippines: Tawi-Tawi Island



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GHQ approved the detachment's disbandment on 13 August 1945 and its personnel were made available to other units.

on the chain of islands between Tawi Tawi and Mindanao.³⁹

The detachment brought its gear to the site on 24 February 1945, and all the equipment was up and running by the following day.⁴⁰ From its position on Balimbang Hill, the detachment observed enemy activity for five days.⁴¹ Determined to force the Japanese to leave Bato Bato, the detachment launched a deception operation—turning on lights in and around the site—to convince the enemy that a large Allied force was on Balimbang.

The effort apparently worked. On 4 March 1945, a patrol lead from Field Unit 14 discovered that the Japanese had indeed vacated Bato Bato.⁴² Throughout the mission, the detachment applied its commando training, continuously patrolling the many islands in the province in either native canoes or US PT boats.

On 17 March 1945, the detachment moved its collection site from Balimbang to another location, where it would remain for the rest of the mission.⁴³ The site was operational within 24 hours, although Capt. Tier, forced to display the range of his training, was delayed by 24 hours to defuse a Japanese booby-trap made out of depth charges containing 400 lbs (181 kg) of TNT Philippine guerrilla fighters had found.⁴⁴

One week after arriving in its new location, Capt. Tier briefed American PT boat captains based at Basilan Island about defences around Bongao Island in preparation for a combined air and sea attack the next day. The Japanese fought back with characteristic ferocity, all PT boats suffered battle damage, and one caught fire. In the end, the boats had to deploy a smokescreen to escape. Despite the heavy fire, there was only one, ultimately fatal, casualty.⁴⁵

US F-4U Corsairs arrived on 27 March to conduct air raids on Japanese positions⁴⁶ and by 2 April, the detachment was directly involved in the fight, firing mortars at enemy barges at Bongao Point—the detachment destroyed two barges and one seaplane. The attack ceased when Japanese 37mm cannon fired on the mortar site, wounding three Philippine guerrillas assisting the detachment.⁴⁷

The next day members of the detachment participated in the successful capture of the airstrip on Sanga Sanga Island. Unfortunately the message notifying the Eighth Army of the success was not received, with the result, as rather dryly put in the *Summary of Activities, August 1945*, that "a very trying day was spent by the patrol and guerrillas in the area dodging American bombs and bullets." Six guerrillas were wounded by the "friendly" fire.⁴⁸

The final stage of the battle began on 2 April when a battalion of US soldiers from the 163rd Regimental Combat Team, aided by intelligence

provided by the detachment, made an unopposed landing on Sanga Sanga Island.⁴⁹ The detachment continued its aggressive patrolling of Sanga Sanga Island until hostilities ceased on 6 April 1945. During this time, the detachment captured seven radios, two dismantled radars, and several completed code and logbooks.⁵⁰ With the mission complete, evacuations took place during 6-13 April. The whole detachment eventually reunited on Mindoro Island, having earned a commendation from GHQ for its performance, according to Lieutenant Rose.⁵¹

The detachment's final mission was to support the 7th Australian Division in its assault on Balikpapan, Indonesia, on 1 July. Lt Rose and three enlisted went in with the initial landing forces. Their mission was to capture Japanese radar and radio equipment. The team succeeded in retrieving three partial radar sets.⁵²

The Japanese surrender the next month led to the cancellation of a proposed expansion of the detachment to 47 and any further missions.⁵³ GHQ approved the detachment's disbandment on 13 August 1945 and its personnel were made available to other units. Thus the story of the Australian Military Force Detachment, Field Unit 12, Section 22, General Headquarters, South-West Pacific Area ended.⁵⁴

Conclusion

The soldiers of Field Unit 12 and 14 performed extremely well in all the missions they undertook. They provided vital ELINT support to American and Philippine forces in

a. The unit summary identifies the location as "Sibentud," but no such place could be found. It is possible the summary has it wrong and the location was Sibutu, another island nearby.

the southern Philippines. In doing so, they demonstrated the renowned ability of Australian soldiers to support Allied fighting forces whenever or wherever missions take them.

By undertaking commando training, the men of Field Unit 12 were able to expand the support provided in the southern Philippines to areas well outside the detachment's original conception. Detachment Deputy Commander Rose provided the best summary of its work when he wrote, "Altogether the show pulled extremely well together with the bearing of genuine ambassadors for Australia in

Together with similar efforts in Europe and in US forces in the Pacific, the Australian effort would advance a form of technological warfare that would continue to be waged throughout the Cold War and beyond.

a theatre of war where the slouch hat is so infrequently observed."⁵⁵

Perhaps by the end of the year Rose had come to take for granted and did not bother to remark on or perceive what is evident between the lines of the historical record, that Field Units 12 and 14 were at the cutting edge of a form of technological warfare that was developed and tested under the most extreme combat conditions.

Their first deployment demonstrated the equipment's potential but also provided valuable lessons that led to changes in planning deployments, packaging of gear, and the mix of skills a field ELINT unit would require. In so doing, the Australian effort, together with similar efforts in Europe and in US forces in the Pacific, would advance a form of technological warfare that would continue to be waged throughout the Cold War and beyond.



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