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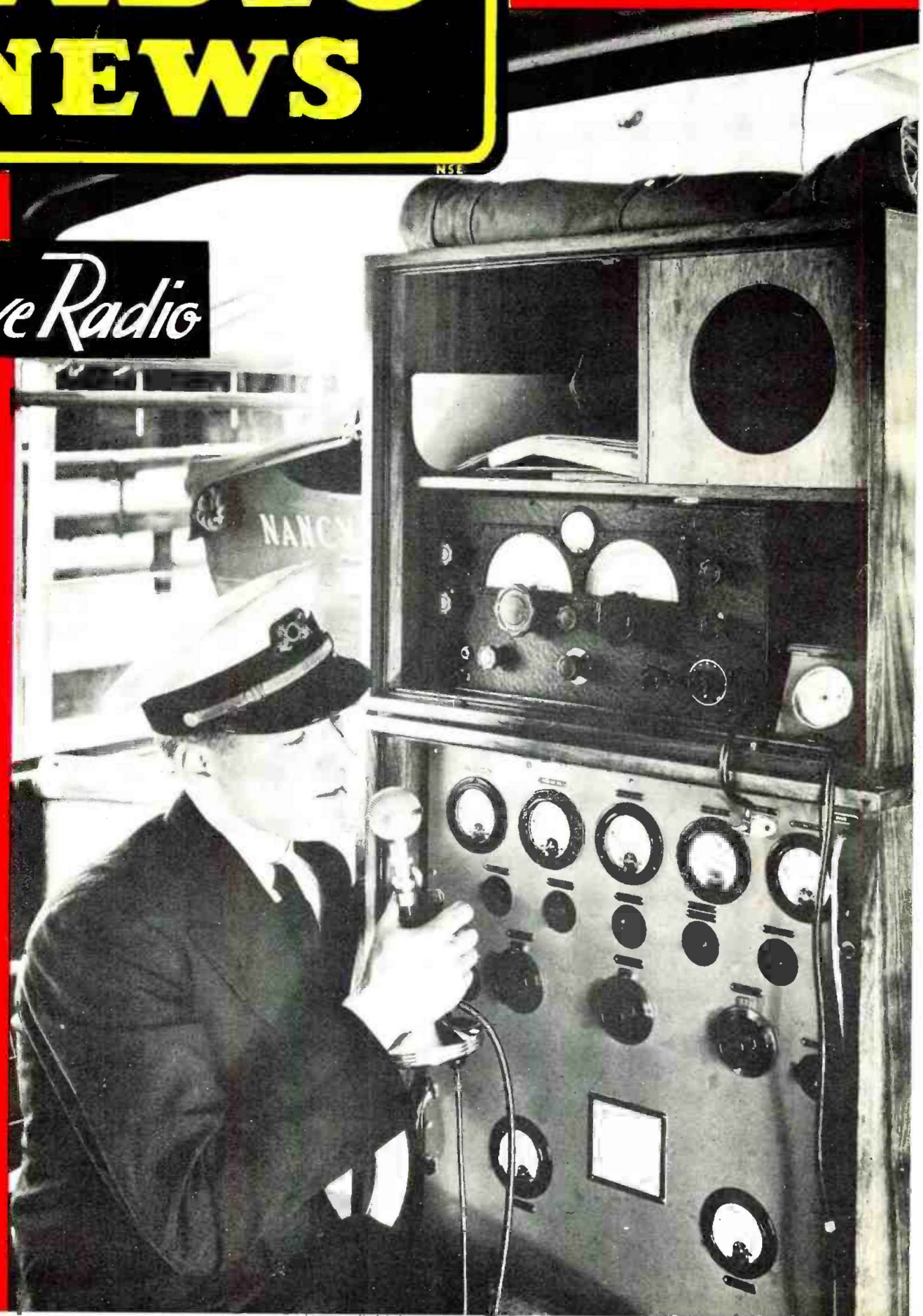


A RADIO BUG

Radio is an important factor in the defense plans of the Panama Canal, the navy's indispensable "life-line."

The Tropics! To the average person this spells romance and señoritas. To the radio-op it means the crashing of static, hard-to-keep schedules, bugs, rain, and excitement.

RADIO was one of my first loves, and the only one that endured. Now as I gazed shoreward from the deck of the army transport *Republic* at the dark, silent, steaming panorama, that is the jungle of Panama, I wondered if it would survive this.

What appeared to be a log suddenly came to life on the canal bank, as one of the huge alligators which infest the lakes and rivers was awakened from his *siesta* by a blast from the ship's whistle. We had left Christobal and the choppy Atlantic behind. Just ahead were the *Pedro Miguel* locks which would lower us to the shores of the Pacific: the hot, humid land that was to be called home for the next two years.

The radio men in Uncle Sam's service outfits, have been called "gold bricks," and everything else but workers, by their lusty service brethren, but from the very first I did not find it so.

First there were the long, hot hours of military drill on the dusty parade ground. Here the future radio operator marched with the future medical interne, the future artillerymen, cooks, and grass cutters.

One — two, one — two: the monotonous chant of distracted recruit sergeants fell on deadened ears and was frequently broken by staccato growls, as some straggling recruit raised a dusty arm to wipe away the sweat that blinded his eyes. For weeks this instruction went on. I often wondered if I'd ever get my hands on a key again.

Then one day came the long awaited order for me to report to the radio school at Fort Amador. What joyous news that was. The stifling heat, along with the almost unbearable humidity, seemed not so noticeable now. I had almost cut my first tooth on spark coils, crystal detectors and oatmeal boxes. Later I had graduated, through the school of hard knocks and shocks, into a fairly decent amateur. I soon learned that you do not "cut up," at least over the air, in Army radio. It is a business.

I will never forget the day when one of the students sent some words (uncomplimentary but in fun) to another operator of a portable station, while practicing out in the field. It happened that the communications' officer was monitoring the portables from the main transmitter, K5AA. The words that were showered upon us by the "noncoms" will not bear reproduction here. In any event there was lots of painting and brass polishing after regular quitting hours.

When the rains arrived (and it really rains for about six months), we studied army procedure. It is quite different from anything the amateur ever attempts. The portable calls consist of two letters and a district number such as HU-5, IU-5, Mu-5. Superfluous signals are kept to an absolute minimum by the use of "Z" signals, which correspond somewhat with the amateur "Q" signs. Many times whole messages are sent exclusively by means of these time-saving abbreviations. A code speed of about twenty words a minute is required for graduation from the school, while regular service messages in the field are sent at about fifteen words per minute. Accuracy is stressed almost to the point of fanaticism, and all letters are printed. The reason is obvious when consideration is taken of the fact that many of the messages are coded and the mistake of a single letter may change the meaning or render the message impossible of decoding. The secret coding of the messages is done by the radio section crew. There are several codes and methods, and their transcription is one of the most interesting branches of Army radio but they are of course, secret.

Just as our six months of rain was beginning to subside, I was turned to duty

Uncle Sam has greatly fortified the Canal Zone area. A rare photograph of one of his armed islands. Each island is interconnected with the other by radio and rails.

in the TROPICS

by KENNETH B. MENEAR
Former Army Radio-op, Grafton, West Va.

Tortola Island (right background) on which the author participated in war games.

as a full-fledged Army operator. But alas! I soon found out that there is more to Army radio operation than just sitting quietly at the key, in the comparative cool of the radio shack.

Fort Amador and K5AA are part of the Coast Artillery Corps, and the main duty of the Coast Artillery is to fire the big guns. Even when they are only practicing, these big guns shoot a long way. This means that range details had to observe azimuth (horizontal) and angular height deviations of the shots when they burst at the target.

I remember when the machine gunners used to shoot. Each of the so called "Gold Bricks" was loaded down with telescopes, telephones, batteries, cameras, wire, transmitters, and sometimes our field packs of canteen, blanket, tent—well anyway we were usually loaded.

Then would come the long hard climb to the top of one of the fortified islands. Several times we started to count the steps to the top but we never finished. Even here where man has worked out marvels of defense, symphonys of steel and concrete, the lush, green tropical jungle seems to be trying to cover the scars. Many times a deer would bound up the long cement stairs ahead and Iguanas would scurry from the path of the common enemy—man. This is the only place in the world where the sun rises in the Pacific and sets in the Atlantic. There was stark, wild beauty here and even familiarity could not breed contempt.

I always considered a machine gun flank detail a vacation in comparison to an anti-aircraft one. We always had to be in such uncivilized places. If it was at Cobey flank, the mud, sand fleas, mosquitoes, and countless other insects, made one curse his luck for not being at the other flank—that is until he did get on the other. The flank at Tortola is the most beautiful, the most exciting, and the nicest after you get there. Note that I said *after*.

A trip to the island of Tortola, meant first—that you had to start several hours before the other groups. After equipment had been checked and rechecked, we loaded aboard a motor launch and put out to sea. If there had been any bad weather we soon knew about it. Sometimes it was hard to keep down hastily eaten breakfasts. Sometimes waves had the annoying habit of breaking over the boat, especially at night when there was no sun to burn you. Cool night ocean breezes and wet clothing are not comfortable in combination, even in the tropics at nine degrees above the equator. When we came up to Tortola the trouble really started. The islands are volcanic and rise almost perpendicularly above the breakers which pound at its bowlder strewn base.

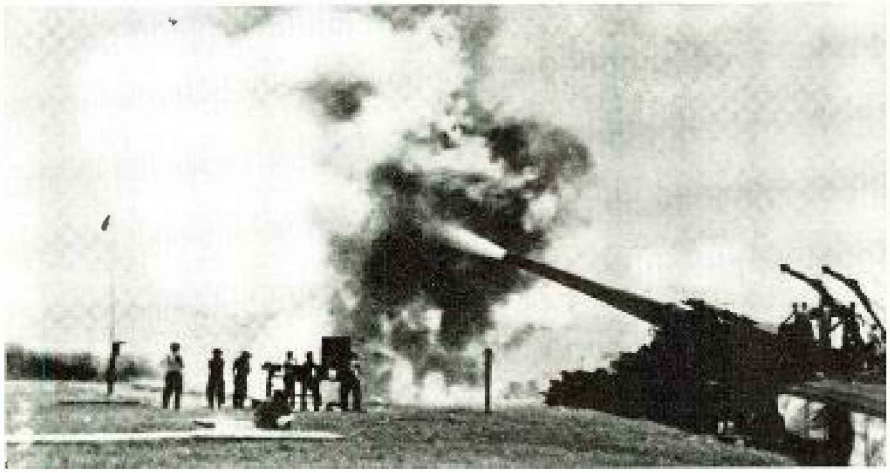
The motor launch could approach to within a hundred yards or so of shore, providing that the tide was not coming in, or the waves too high. In any event we always had to load the heavy but valuable equipment into a small open rowboat, then trust in Providence, good rowing, and a fair sea to get us ashore. We always expected to lose some of the expensive tools of our trade but we never did, though we had several close shaves.

Upon landing we had first to scramble and struggle with the running gear until it was reposing safely on the summit. Sometimes two or three trips were necessary. Worn clothing and shoes many times made the final assembly look more like a hobo camp than an elite collection of exclusive radio men.

The regulations state that the flank details shall get in communication with the base as quickly as possible, so there was no time for rest. Incidentally, about the only cheerful news I ever heard from the regulations concerned an article which states that "In war, radio operators shall be as sheltered from gun and shell fire as much as possible."

The Army transmitter, its generator and accessories are put up into three boxes which are said to be portable on fair ground. The generator, which is turned by hand, and its accompanying gear is the heaviest case. (This is for prospective Army operators.) It is amazing how soon the men learn to avoid this case.

(*Continued on page* 74)



Radio equipment in foreground is used to command coast artillery gun squad. Firing on unseen targets, it receives range corrections by radio from planes.

A Radio Bug in the Tropics

(Continued from page 9)

The usual antenna is an umbrella type. The mast is a jointed affair made up of sections which are of the right length to fit into the carrying case. The guy wires, which radiate in all directions from the top, form the radiating portion of the antenna, and are, of course, insulated at a distance of about two feet from ground. The feeder (single wire), runs from the transmitter up through the mast and feeds the radiating portions.

The transmitter and receiver are in the same case. The hinged front of the box forms the operating table. The tubes are VT-25s (210, to you) in parallel, self excited, with six hundred volts on the plates, from the portable hand generator.

The net control station fixes frequency at around thirty-two meters. Portables tune their frequency to the net control, as picked up by the receiver, so that all stations in the net are on approximately the same frequency. Reception is amazingly good up to ten miles with little interference due to the high signal to noise level of the receiver and the short distances over which we usually operated. Usually reception was 100% perfect, with few slip ups. One night we did forget to put bulbs in the BC scope so that we had to take the range readings by candle light, but such instances are the exception rather than the rule.

There are adventures for the radio man in the tropics along with the regular duties. Some days there would be from twenty to thirty messages to get off to amateurs in the States. The Army contacts only amateur operating in the twenty meter band. Almost all districts in the U. S. can be worked any day from K5AA. A kilowatt input is used on a pair of 860's and almost every country in the world has been worked at one time or another.

One day in particular, I remember, dawned with a clearness characteristic of the tropics. The first rays of the sun forecast the heat to come. Within an hour after dawn there was a stiff breeze blowing in from the ocean, and out to sea, toward Tortola, were flakes of white which we knew on closer inspection would prove to be waves, lashed to frothy fury. And today was our day to set up a range detail there.

As soon as our launch had cleared the protection of the causeway, I knew that we were in for more than our usual amount of trouble. The waves handled us pretty roughly. One second we were poised on the crest, then with a suddenness that was startling, our watery foundation would disintegrate under the bow. Downward we would plunge, burying the nose deep in the froth, while breakers swept over us. Upon arrival off Tortola, we could see that she was swathed in white spray at her base, as the booming waves pounded her sides.

Getting the rowboat loaded with equipment proved to be a torturous task. The landing was even more difficult, though we knew it would be worse in the evening when the tide was high.

For some reason known only to the powers that be, drill was called off for the day but the disheartening news was flashed to us, that firing drill would be held that night. It was finally decided that we should remain on the island, rather than attempt the resultant loading and landings again.

Lunches were thrown ashore at noon. Scraps were thrown into the water and soon sharks began to gather. Within an hour, eight or ten of the evil looking monsters were slinking through the crystal clear water.

As the afternoon advanced and night approached, the storm at sea increased in fury. By the time we had completed night drill and were again ready to undertake the hazardous trip by rowboat to the launch, the storm had reached near-gale proportions.

We radioed headquarters for further instructions, as we were reluctant to undertake the hazardous task of trying to make contact with the launch and risk the loss of such valuable equipment as well as the possible risk to life. There was no shelter where we were, and no place to leave the instruments, so it was finally decided that we would have to take the chance.

The sharks were still hanging around and the nearer we came to embarkation time the less we liked it.

A Panamanian fishing boat had tied up to the island, and an old fisherman entertained us with the story of, "how he lost his arm when a hungry shark nipped it off."

The story did little to cheer us up as some of the man-eaters were still hanging around.

After much difficulty the rowboat finally succeeded in landing and was loaded with the equipment and some of the men. I was in the first boat.

Far off shore the bouncing lights of the launch were the only objects to be seen in an eternity of blackness, as clouds obscured the moon. How far off those lights looked to us then.

As the next breaker boomed ashore we cast off in the ebb, in a shower of spray. The man in the bow gave a shove and we were out on the boiling waters. The next moment there was a splintering crash as the frail rowboat was hurled against the rocky barrier. We had waited a moment too long and the next incoming wave had caught us before we were clear of the island. Frantically our oarsman worked at his oars. It was the fraility of man against mighty nature on a rampage. The next wave caught us a broadside and we were hurled into the shark infested waters. Half choked from the salty water; more than a little afraid of the sharks, we nevertheless did have the presence of mind to hold on to the boat. I don't know yet how we managed to save the equipment but while some climbed into the boat, others steadied it from the water. Half-an-hour later, tired and wet, we were headed back for the post.

As the boys in the service say, "it was just one day less for us, and one day more for the government."

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