K9YA Telegraph

Season's Greetings

December 2008 Volume 5, Issue 12

Robert F. Heytow Memorial Radio Club

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NASA photo

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The Winter of Our Content

Hamming 'Neath Crystalline Skies

Philip Cala-Lazar, K9PL

Winter is my favorite ham radio season. With it come the cold and frost and QRN-hushed bands that hint of snowbound QSOs to come. With most everyone in the broad swath of Snow Belt latitudes cocooning to escape the harsh weather, and undistracted by summer's outdoorsy attractions, there's more activity on the bands.

Nevertheless, reality soon settles in with the deepening snows and darkening skies just outside the shack window as I'm drawn to ragchewing with fellow operators. Thus commences the annual ritual shared by frigid-area hams with their compatriots in warmer climes.

"It's 12 degrees here with three feet of drifting, heavy snow," I report to the op at his condominium in Panama City, Florida. His reply? "Well, OM, out here on my patio it's 75 degrees with balmy breezes off the Gulf of Mexico." He then twists the dagger with, "Come on down!"

I often think of my antennas, extensions of myself, suspended as they are between trees and spiking off the roof, as they sacrifice themselves to the elemental forces of nature and ungrudgingly radiate signals generated by warm rigs in a cozy shack. Though savaged by rime and relentless frozen pelting they perform admirably.

But, I wouldn't trade latitudes with him because tearing one's self away from a warm rig and fun QSO to shovel snow and shake ice off the dipoles is a character building exercise rewarded by a hot beverage to warm both spirit and fingers for yet another go at the key.

Moreover, and most profoundly, I have experienced the indescribable pleasures of communicating with kindred souls under a cold and crystalline, star-dusted sky.

Our Sixth Anniversary

This season the staff at the *K9YA Telegraph* look forward to another year—our sixth—of sharing with the international amateur radio community your stories; your stories of today, stories looking forward and tales of past glories. These articles offer ample proof of the extensive range of activities available to all amateur radio operators. Only the depths and breadth of our curiosity limit us. We have also sought to share with you some fascinating examples from amateur radio's rich history, the people, their adventures and their lasting accomplishments. We have them to thank for our service's survival during and following two world wars, the Great Depression, political and social upheavals worldwide and the ongoing desire of commercial interests to appropriate parts of the amateur radio spectrum.

"Our Sixth Anniversary"

A special thanks to the authors whose contribution of stories have made possible the past five years of the *K9YA Telegraph* and whose continued support will make it possible to continue for many more years.

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Inside This Issue...

Radio in the Park with Nick

Nick Krebs, KG9E

Nick, KG9E, operating portable from Horner Park

Renting an apartment on the ground floor of a two-flat in Chicago does not make for a very happy HF antenna situation. My landlord lives on the second story and so I really cannot get away with an outside stealth solution. I have used an indoor dipole strung up on the ceiling to talk around the U.S., Mexico, Canada, and even into Ireland, Italy and France on 40-10 meters but it still leaves a lot to be desired. More recently, I outlined my living and dining room ceilings with wire to make a horizontal loop antenna I can use on 80-10 meters. Although it works better than the dipole, it is still quite a compromise.

I live across the street from Horner Park, a large 54-acre park bound by the Chicago River on the east, California Ave. on the west, Montrose Ave. on the north and Irving Park Ave. on the south. For nine years I have run, walked, read, napped, practiced harmonica, played with dogs, and frolicked in this park. In the 14 months since I've been a ham, Horner Park has become an integral part of my ham shack.

In the movie *Eye of the Needle*, Donald Sutherland plays a WWII German spy and on several occasions he operates CW, sending messages about D-Day back to headquarters. There is one scene where he is sitting by a river with a fishing rod and tackle box. The fishing line is cast and the tackle box is open. Inside the tackle box is a hidden radio transmitter and he is covertly sending CW while pretending to fish. I assumed the fishing rod and line was the antenna. Perhaps this was the seed for my portable operation.

Wanting to remain portable, low power, easy to set up, and yet retain the ability to communicate on HF, I resigned myself to operating CW. I built two QRP CW transceiver kits, the Ten Tec 3020 and the Oak Hills Research 100A to operate 20- and 40-meters, respectively. They were quite fun to build and they work very well. I modified them to contain a bank of internal AA batteries so all I would need to do is deploy a simple wire dipole antenna and I would be on the air. This was simple enough to do and on several occasions I put up a dipole in the trees at the park and operated CW.

Putting up the dipole was a lot of fun. On some days it was less fun when everything got tangled up or my aim was off. I used a tennis ball weighted with pennies inside to deploy jute twine so I could suspend the dipole. I figured I would get arrested if I tried to use a slingshot or bow and arrow. I got a few inquiries as to what I was doing. When I said it is for ham radio, people sometimes asked if ham radio is dead. No, it's very much alive and well, I replied.

> *"Wow, what a fun radio!"*

I had a very nice 15-minute conversation with a passerby in the park. He asked if my setup was for shortwave. It turned out he is a part-time SWL. We talked about ham radio, CB, disaster communication, and he was surprised people still use CW. Maybe he does not SWL enough.

Using the CW transceivers and dipole, I was able to make a few contacts. But all the while, I was thinking I could do a lot more.

One night, I was looking at ham gear on eBay and came across the Tokyo Hy Power HT-750, a handheld battery-powered CW and SSB 3-watt QRP rig that covers 40-, 15-, and 6-meters, with telescopic whip antennas for each band. I thought this would be a great radio for my QRP portable work; it is self contained, lightweight, portable, and it would give me SSB as well as a couple of extra bands. After reading the reviews on eham, I decided to bid and eventually won. Wow, what a fun radio!

My first real enthusiasm with this radio was realized during the 2008 WPX CW contest during the weekend of 24.May.2008. That morning, I was tuning around with my home station and heard a lot of

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activity on 15-meters CW. I made one contact and decided that, with it being a nice day and all, I would venture out to Horner Park in Chicago and give the Tokyo Hy Power HT-750 a go. I sat myself down at a picnic table, extended the telescopic whip, stood the radio upright, plugged in my key, and it was some of the most ham radio fun I had in a while! I never expected anyone to hear me. However, using this 3-watt triband transceiver, its 15-meter center-loaded telescoping whip, a 20 ft. counterpoise, and my trusty Radio Shack 150-in-1 Electronic Project Kit code key, I spent the next five hours making about 25 contacts all over the United States and Canada, and I even worked PJ2T in Curacao!

After that day, I began using the THP HT-750 outside a lot more. I suppose the nicer weather had something to do with it, too. I went to the park almost daily, trying different locations, counterpoises and antennas (I even tuned up one of the big 75-foot tall baseball light masts with a ZM2 tuner). I became very enamored with the idea of portable HF communication that can fit in your hand—radio, power source, and antenna (with counterpoise)—and you can have 40-, 15-, and 6-meters CW and SSB in your mitts (and trail wire a little behind you). I got a lot of strange looks walking around the park with this configuration (heck, I get those looks anyway!). Here I am, talking into a metal block with a 6-foot tall antenna, trailing a 20-foot piece of wire behind me. Well, I don't know about you, but I've certainly seen stranger things in Chicago.

"I've certainly seen stranger things in Chicago."

The radio is about the size of a brick and runs off eight AA cells. It has a very simple and easy to use menu system, with just enough features catering more to CW than SSB. To help conserve battery power, I usually take along my Kenwood TH-F6A to use as a monitor, instead of using the built-in side tone on the HT-750. Plus, it sounds much cooler. Should I forget my trusty plastic toy key, I need not worry because I can use the built-in PTT or PTT on the external mic. I had to do this a couple of times during the K9YA Wednesday night CW net on 7.121 MHz. It probably made my fist better. Using 3 watts and the telescopic whip, I got a RST 439 from Mike, N9BOR, and a QSL card!

ARS KG9E/p

Wanting more out of my portable experience I decided to try using this radio on SSB, unsure of what to expect. I heard several strong stations on 40-meters and tried many times to make SSB contacts, but to no avail. I attributed my lack of success to being QRP, using a center-loaded whip, and just bad conditions. Then, one day I was playing around with the 40-meter telescoping antenna and discovered that if I collapsed a full 6-inch section of the whip, I could get a full scale output meter reading on SSB as I did on CW. In retrospect, I had assumed that, fully extended, the factory antenna would provide maximum output over the whole 40-meter band. Not so. Before that moment, I really had no way of measuring how much power was being radiated through the antenna. This was a very simple realization that opened up a new world for me.

Testing my discovery I marched over to Horner Park one evening and came across the 3905 Century Club WAS and DXCC awards net on 7.178. I listened for a bit, and then they called for check-ins. I gave out my

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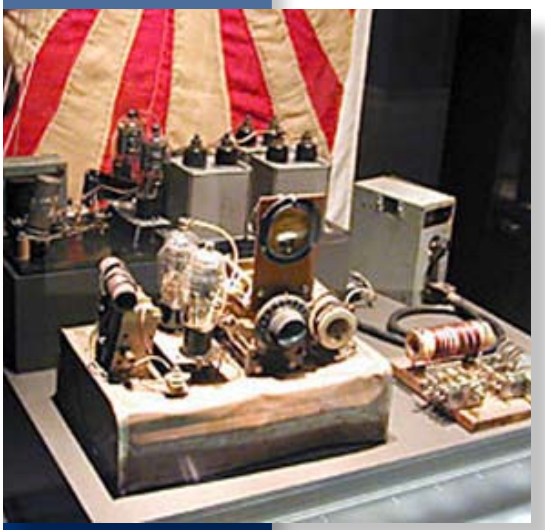
Winnie the War Winner

John Kirk, VK4TJ



Winnie

Does your nation's most prestigious museum feature, as one of its most coveted exhibits, a homebrew QRP CW "glowbug" rig? No? Perhaps it would if its role changed the fate of a nation the way that "Winnie" did.

The time: 1942.

The place: Timor

The Japanese are known to have overrun Australian and Dutch positions on the island. Thousands have surrendered to Imperial Japanese Army Colonel Sadaschichi Doi, and are interned under deplorable conditions in makeshift camps.

Three months after the fall of Timor, a faint signal is heard in Darwin, Northern Territories, alleging to emanate from 2/2 Independent Company, employing an encryption algorithm three months out of date. Fearing that the signallers have been captured with code books intact, rapid-fire interrogation begins:

"Do you know George Parker?"

"Yes, he's right here."

"What rank is he?"

"Captain."

"What is his wife's first name?"

"Joan."

"What is the street number of his house?"

"94."

Embedded in this exchange were several "tells" that advised HQ that, no, the signallers were not captured or under any duress. The next exchange floored them, "Timor Force is intact and continuing to fight. Badly need boots, quinine, money and Tommy gun ammo." Darwin, of course, obliged forthwith, air-dropping the much needed supplies within 48 hours. Thus began the first truly "guerrilla" war effort Australia had ever engaged in, though that term was not then in common use. Infantry, largely recruited from cattle properties in Western Australia, where self reliance was a matter of survival, engaged 20,000 crack Japanese troops for the next year. This Australian Army record stands even today as the longest continuous engagement of enemy troops without relief.

"'Surrender? Surrender be !@%$#!'"

So how did this faint signal come to be? As you might expect, a ham was involved: Max Loveless, VK7ML. His peacetime gig was as a broadcast technician at Hobart's 7ZL AM station. In direct contravention of orders, soldiers had buried, rather than destroyed much of their radio gear, as it became apparent that the Japanese were over-running their positions. Timorese natives, able to pass through enemy lines without excessive scrutiny, dug up some of the vital bits, including a quartz crystal close to a coast watch working frequency! Anything vaguely radio-related was spirited away to Max, holed up in the mountainous interior. With a kerosene tin for a chassis, bamboo for coil forms and homebrew tube sockets, he first cobbled together a simple "crystal cracker" power oscillator. When that failed to work, undaunted, he started again and produced a "MOPA" (Master Oscillator/Power Amplifier) transmitter with an 807 final, like those much in vogue with hams of the era. With this, they were finally able to make that crucial contact with Northern HQ in Darwin, despite being severely limited on power output due to flat B batteries. The rig was promptly dubbed "Winnie the War Winner" in honor of Winston Churchill.

In a strange way, Colonel Sadaschichi Doi admired his opponents, who adamantly refused to surrender. An emissary, dispatched to demand their surrender, brought back a terse "Surrender? Surrender be !@%$#!" A student of Boer War military tactics, he acknowledged that "It will take me 10 men for every one of them to clean them out." His numbers were a little out—at no time did 2/2 Company ever exceed 450 men, yet Doi lost over 2,000 men of his 20,000-strong force attempting

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The Beer Can Rumble

Recycling—Ham Style

Rod Newkirk, VA3ZBB/W9BRD

Sixty years ago beer cans were sturdy little buggers, rock-ribbed top and bottom. Possibly under the influence of emptying too many too quickly, some radio amateurs realized the empties could be hooked up end to end. They took solder like ducks to water. A teasy article appeared in a ham magazine and a furious fad was born.

Tom, W9ZJZ, an Illinois State Police radioman, liked to be early with any new thing. He had shown us our first sun-powered transistor radio. Rigging a two-board jig, he put in unpaid overtime soldering together a 30-foot mast. It was light and strong. He capped the job with two coats of battleship gray.

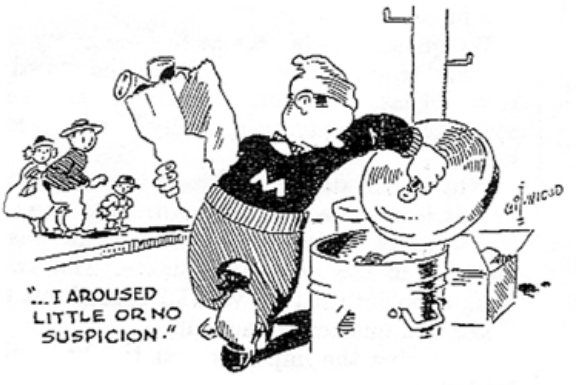
We had a set of 7-MHz frequencies for our CW network, so the new mast was pressed into service on 7480 and 7805 kHz, mounted on our radio shack roof. It was guyed two-thirds up and fitted with four bent radials. We thought it would augment the performance of our regular horizontal wires. Against a backdrop of elms and maples, it was barely visible.

Weldon Whisler, W9GAS, reporter for the Chicago Tribune, thought the antenna was the neatest thing since sliced bread. So did W9YIX, his editor, he wrote a squib for the Trib titled "State Police Use Beer Cans for Radio Antenna." The item was very widely read.

We shared our small building with the troopers as district headquarters. Chief Police Clerk Danny O'Neil supervised the premises. He missed reading W9GAS's news article. Danny received a morning telephone call that could be heard from wall to wall. "O'Neil, get all those damned beer cans off the roof!" Danny rushed outside to survey the problem but saw no beer cans. Back inside, he shook his head, "The Captain has lost his marbles for sure."

> *"The Captain has lost his marbles…"*

Fact of the matter is, our new ground-plane radiator did not perform up to expectations. Maybe its radials were insufficient or the height was wrong. We tested it for a month or two and finally took it down. Later I made my own 40-foot beer can mast as the support for one end of an 80-meter dipole. My uncle Harold was a great source for empties. I skipped the paint job, preferring my beer cans *au natural*. To confound future archeologists, deep in a Chicago landfill there rests a bunch of beer cans with mysteriously soldered ends. ■



Cartoon reprinted with permission of the ARRL. Copyright ARRL

Something Clicked...

Of course you remember the defining moment when you had to get your ham ticket. Your eyes opened wide and you couldn't soak it in fast enough. Tell us about it—your Elmer—your first contact—your first rig, etc.

Send us an e-mail at: telegraph@k9ya.org

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Ruggedizing the Whiterook MK-33

Paul Signorelli, WØRW

Original Whiterook MK-33
Fig. 1

The Whiterook MK-33 is a cute little straight bug built on a 2-inch by 2-inch plastic jewel box.

The original one is shown in figure 1.

It really works well and is very small. I have made over 300 contacts with it, but it has some weaknesses. Keying becomes intermittent when the contacts build up aluminum oxide and my plastic swinger (armature) eventually broke, probably because I hit it hard and use it in cold weather too.

Ruggedizing the MK-33 requires replacing the plastic armature with a .005-inch thick beryllium copper strip of the same size and adding a few relay contacts from an old relay.

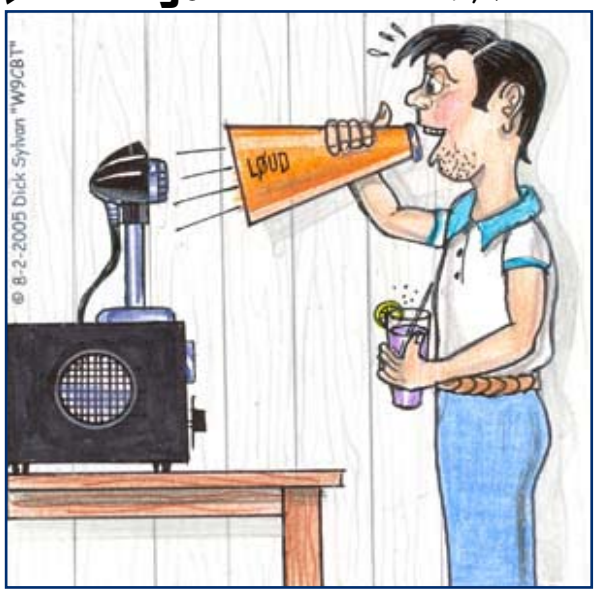
The finished picture of the green MK-33 tells the story. This iambic version could also be ruggedized the same way. The photo of the bottom of my Whiterook contains RF filtering to prevent RF burns. ■

Ruggedized Version of the MK-33 Paddle

RF Filters Installed in Base of Paddle

Ham Lingo

DICK SYLVAN, W9CBT



SPEECH AMPLIFIER

K9YA Field Day Results

A lightning storm may have curtailed precious operating time for K9YA's Field Day, but it didn't put a damper on their fun. 1,130 CW QSOs and 5,270 points earned them a number two finish for category 1A in the Central Division (IL, IN & WI). There were a total of 166 participants in 1A and Team K9YA finished 8th overall.

K9YA's 2008 Field Day team consisted of John, AAØBP; Mike, N9BOR; Steve, N9WAT; Chuck, NIØC; Philip, K9PL; and Art, WB9JKZ.

Wait until next year!

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call, and immediately got a relay to net control from W8NET near Akron, Ohio. I eventually made a good contact with AL7QQ in Des Moines, Iowa (about 300 miles away). This is very cool, I thought, and the wheels began to turn. Over the next week, I was able to make a few QRP contacts on this net with the telescopic whip. The week after that, I put up the 40-meter dipole in the trees on the south end of the park and was able to work a few more new states.

Still wanting to make more contacts into new locations, I ordered a SuperAntennas MP-1 portable vertical with optional tripod and 80-meter coil, and that proved to work much better than the center-loaded telescopic whip, and it was much easier to deploy than the dipole. The antenna breaks down in 1-foot sections, so it has a high portability factor. I worked several states from the park, including MI, WI, OH, KY, TN, IL, MN, IA, MO, and also a few Canadian stations with the MP-1 and THP HT-750 on 3 watts. I was quite happy with the results and the evolution of my portable operation.

At this point I thought it would be nice to try some other bands QRP. Rather than collecting different radios for the various bands, I decided to bite the bullet and go with the Yaesu FT-817ND, a purchase I could not previously justify. The 817ND retains high portability factor, internal battery pack, all-mode 160m-70cm, and a maximum of 5 watts. The MP-1 covers 80m-2m so between the radio and the antenna, I can cover a large portion of the amateur bands.

One of my first contacts with 5 watts on 20-meters was XE1YQQ, Theo, in Mexico City. He gave me a true 59 report and was very surprised I was running QRP. His friend Luis was also on frequency and he also gave me a 59. During this time, 10-meters was having some fits of activity, and I was able to work various stations with 5 watts SSB. QSOs included an AM contact into Quebec City on 29.000 MHz, a 10m FM contact to a repeater in New York City, and even an SSB contact into the Canary Islands! I've since modified the MP-1 by adding two one-foot base sections to raise the coil (making the antenna more efficient) and by adding four 1/4 wave 16 ga. speaker wire counterpoises cut for 20-meters. I also tend to use an MFJ 10-foot telescopic whip in place of the stock 4.5-foot telescopic whip on 40m and 20m.

The MP-1 antenna was working out very well, so what do you think the next thing was to improve upon? You guessed it: RF power output. Now I was looking for a small QRP drive amplifier with low power requirements so I could retain a high portability factor. After much research, I came across the HF Packer amplifier kit. It's small and lightweight and easy to power since it draws a maximum of 6 amps. Plus, it's a kit and I love to build kits so this was a no-brainer for me. The project took about 25 hours over a weekend, as I was anxious to get it on the air. It was some of the best 25 hours I have invested in. I ordered a 9 Ah AGM gel cell battery to power the amplifier. Now I had 35-40 watts of power on 160-10 meters, driven with a mere 2.5 watts of power from the 817ND. This was truly becoming a serious portable HF radio station, and I was thrilled at its potential.

HF Packer Amplifier Kit

As soon as I got the HF Packer amplifier on the air I noticed a huge difference in the number of contacts I could make. I was getting very nice reports from all over and people seemed amazed that I was running 35 watts portable. I was very excited to demonstrate the amplifier during the K9YA 40m CW practice net. Mike, N9BOR, gave me a RST 569, a significant improvement over my previous reports. That really made it well worth the effort. I was amazed how much of a difference the amplifier made. I am by no means the strongest station on the air, but I have managed to break through DX pileups before some of the California Kilowatts. During a summer of low to zero sunspot activity, I have managed WAS, WAC (both confirmed by QSL cards), and I've logged over 60 countries (QSL cards still trickling in) operating SSB picnic table portable with 35 watts.

Well, you might think that I would be satisfied with that, but no. There was still something else missing in a portable HF radio station. I was able to get a good 5+ hours out of the 9 ah AGM battery while using the internal battery pack in the FT-817ND. But what if I needed to operate longer, or if I needed to use the AGM battery to power both the amplifier and the radio? That would certainly cut my operating time down. So, I needed an external power source to at least keep the AGM battery topped off during use, yet still retain a high portability factor. The obvious answer for operating outside was solar power and I found the solution in a 26-watt foldable solar panel.

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The four *Telegraph* staffers offer their heartfelt thanks to all our subscribers for their ongoing support and the many congratulatory messages we received in 2008 as in past years.

From all of us: A very joyous holiday season to you and your families.

73 ES HPE TO CU ON THE AIR ■

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The solar panel folds up into 8.5" x 11" x 1" and weighs 1.5 pounds. It produces 1.5+ amps of current in good sun—a good amount for charging my 9 Ah battery. Plus, it is flexible, durable and overall very cool. I use a small charge controller to sense the state of charge of the battery. A good wind can easily blow the panel away, so I keep it secured with bungee cords on a windy day. With the solar panel keeping the battery charged, I've been able to operate the amplifier and radio while charging the internal battery pack in the FT-817ND, and have been on the air for at least 12 hours, six of those hours in good sunlight. After a day of normal operation, a measurement of the voltage across the terminals of the AGM battery reads about 12.5 volts, so its state of charge is about 75%.

The AGM battery is presently the heaviest component, weighing in at 5 pounds and measuring about 6" x 3" x 2". Other technologies like lithium-polymer offer a little less weight, but at a much higher cost. Until the price drops, I'll stick to my $25 gel cell.

I am able to fit everything—radio, antenna system, amplifier, AGM gel cell battery, SWR meter, solar panel, tools and some other odds and ends into an attaché case. Setting it up is very easy and less than 10 minutes later I am on the air. I bungee cord the MP-1 antenna to the picnic table and it has withstood high winds of up to 50 mph. The alligator leads used to connect the solar panel, charge controller, battery and radio were getting messy and dangerous, so I built a small power distribution bus out of a push-spring speaker connector strip. It was a long evolution, but I now have a portable HF 35- watt radio station that covers 80-2 meters that I can carry around. You might even say it still fits in my hand!

Needless to say, I get a lot of curious onlookers, turned heads and inquiries. The most interested audience has been youths. Preens and young teens seem to be the most interested and inquisitive when they see me out in the park. One day, a young man of about 12 came over to the picnic table. He noted he had seen me there before and asked what I was doing. While setting everything up, I described the radio gear—radio, amplifier, antenna, etc. I was soon on the air, and he sat down across from me, listening to the stations I was receiving. He was very curious and we soon spoke to a station in Spain. He was very amazed. We then made several contacts in the U.S. and Canada, and he started asking many questions. Can you talk to the Philippines? What does QSL mean? How do you know where they are? What are those numbers on the screen? He sat and listened for about 20 minutes. Then, his cell phone buzzed and he said he had to go home for dinner. He stood up, shook my hand, and bade me farewell. I asked him his name, and he said it was Romeo. That's just perfect for a future ham radio operator! ■

CONTINUED - WINNIE FROM PAGE 4

to take, then hold Timor. During most of the Timor conflict, 2/2 Company was the ONLY Australian force in Southeast Asia actively engaged against the enemy.

Why were 2/2 company so radio-deficient in the first place? The popular account has them destroying or burying their radios to avoid their falling into enemy hands, but the awful truth is that much of their gear had been dropped from deck height into the holds of the ships carrying troops to Timor in the first place by Communist-led Australian civilian dock workers. These workers were little more than thugs, really, not above inventing an issue for a sit-down or strike if one failed to materialise. In this instance, enraged that their beer ration had not been unloaded first, they exacted revenge, placing untold numbers of Australian lives at risk. This was not the only documented instance of industrial sabotage of the war effort. American soldiers stationed in Australian ports quickly learned to "invite" dockworkers to vacate the ship loading facilities at gunpoint, rather than risk theft or outright destruction of much-needed war matériel.

Militarily, Timor did not even figure in General McArthur's plans to take back the Pacific from the Japanese, as it held no particular strategic or even commercial importance, but it is likely that those 20,000 Japanese troops, but for the intervention of VK7ML and the 2/2 Company, would have landed somewhere in Northern Australia, no doubt with very different consequences! ■

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