Meet the Mosquito Network

Inside the U.S. effort in a battle of the airwaves during the Pacific campaign of World War II

ROOTS OF RADIO

BY MARK DURENBERGER

We can't fully appreciate the importance of *news from home* to those who served in World War II. In the Pacific campaigns, G.I.s, sailors and Marines fought bloody island-hopping battles; as each island was cleared, garrison troops and hospitals moved in and carried on their own war against mosquitoes, isolation and boredom. The island fighters were fortunate if dated mail caught up with them before they moved on to the next target. Timely personal-level communications were pretty much absent.

Radio programming from America was available but only on shortwave. And shortwave radios were not generally available. The fortunate few had been issued "Buddy Kits" that included a radio, a small PA system and a record player for discs sent by mail. But for most there was no way to receive short-lived information such as news and sports. They were left with enemy radio propaganda such as Japan's "Orphan Ann/Annie" (aka one of several Tokyo Roses) and the "Zero Hour" program.

No wonder that the idea of having a local island radio station doing "live from home" was so fiercely supported. Enlightened commanders saw the idea as a terrific morale-builder. The only problem was how to pull it off.

A solution, not uniquely, came from within the ranks. It started with the work of some bored but talented soldiers in the Panama Canal Zone who in 1940 built a couple of 50 W transmitters and put them on the air without authorization, labeling them "PCAN" and "PCAC."

In Alaska, 7,500 miles northwest of Panama City, what started as programming through a loudspeaker system became a bootleg radio operation at Kodiak. Coming on the air in January 1942 and calling itself "KODK," it delivered a whopping 15 watts to the troops. Sources with hindsight later said that the Armed Forces Radio Service ("AFRS") was born here, when one of its progenitors visited the Alaska operations and "came up with the idea."

Possibly the earliest military station in World War II — this one located in the Panama Canal Zone.

There were similar stations in Hawaii and the Philippines, including the ill-fated island of Corregidor, where a station called "The Voice of Freedom" was an AM repeater for shortwave broadcasts from the U.S.

As troop buildups began in the South Pacific, joint Allied radio operations were established, notably in New Zealand and Australia. These stations were popular with Americans but they also kindled an appetite for "real radio from the States."

Meanwhile things were happening in Washington. The government's "Morale Services Division" had been created in 1940, though its mandate hadn't focused on radio. But as cumbersome as government can be, soldiers' demands for American radio content eventually reached the right people. Increased priority was given to the recording and distribution of network radio programs by electrical transcription. But that still wasn't live broadcasting.

The Morale Services Division was renamed the "Special Services Division" (SSD) and tasked with live broadcasting. The broadcasting division of the SSD would become the fabled Armed Forces Radio Service.

AFRS began to place "local/relay stations" among the troops. In the Eastern theaters such stations often used existing facilities, but in the Pacific they had to build from the ground up. To facilitate the effort, AFRS created a "station in a box" package that included a transmitter, long-wire antenna and recording and reproducing equipment. Installation teams boated from island to island to plant these mini-stations. Most of them came alive in 1944 and 1945 and, as the island-hopping campaign moved toward Japan, many were soon abandoned, some after only a few months' operation.

"Stations in a box" were first unpacked in Noumea New Guinea; then it was on to New Caledonia where AFRS hatched the first of the "Mosquito Network" stations. As WVUS it was among the first such to be given an FCC license (most

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Photos from The National Archives

An affiliate of the Mosquito Network

WORKBENCH

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Sealing conduit is a must to avoid vermin, water and trash from incursion. Although foam or putty are satisfactory, removing the "plug" to get other wires into the pipe can be messy. Plus, rodents will chew right through the foam unless you include a stainless steel or copper wool component.

Consulting Engineer Charles "Buc" Fitch, P.E. offers another idea especially for unused pipe or conduit — use a pipe stopper. These are cost-effective seals that you insert in the conduit or pipe and when you hand tighten the nut, the rubber gasket expands to seal the opening. Of course, these are ideal when you are capping off an end, because if you have cable entering the pipe or conduit, you will need to carve a small notch in the plastic to permit the cable to pass, but it will keep the rodents and snakes out.

These handy devices can be found at Newman Tools — *http://www.newmantools.com/cob/nylon.htm*.

But you'll also find them at the big box stores as well as plumbing suppliers. Buc advises if you buy these plugs locally, to take a small piece of the pipe with you, to insure you get the right inner diameter size.

One last thought from Buc — if you have those metal coax feedthrough ports for coax at your transmitter site, these stoppers are ideal for plugging unused ports, and they are a lot quicker to remove than the rubber boots held in place with a hose clamp!

Contribute to Workbench. You'll help y our fellow engineers, and qualify for SBE recertification credit. Send Workbench tips and high-resolution photos to johnpbisset@gmail.com.

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PACIFIC RADIO

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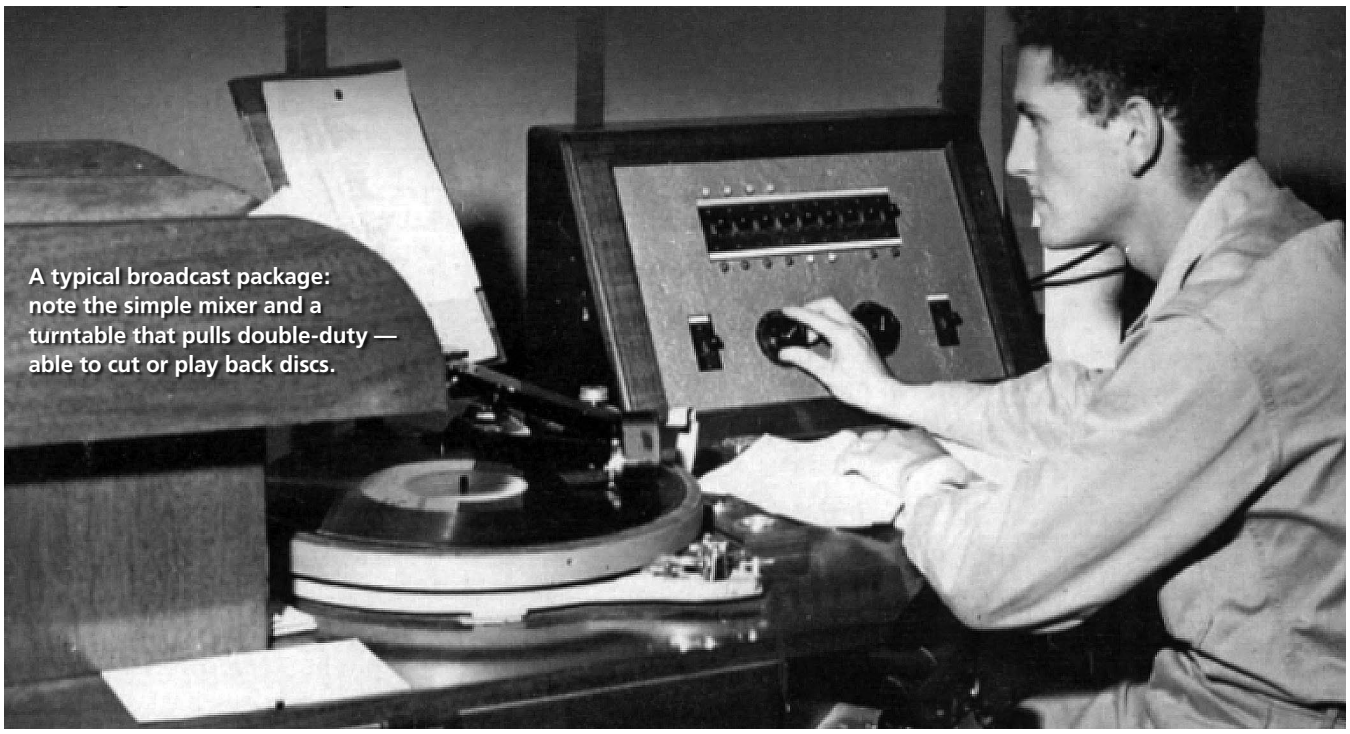
of the Pacific's licensed-station calls would then begin with "WV").

Guadalcanal was the next priority for AFRS. Space precludes station-by-station descriptions, so I'll use Guadalcanal as a definitive example. The "studios" were in a wooden shack humorously called "Radio City." The first antenna was a 60-foot-high long-wire stretched between two palm trees (climbed by the more dexterous of the youthful assembly gang). Somehow the wire was "tuned" to work on 730 kHz. Later the antenna was raised to 90 feet and the frequency to 690 kHz. "AES-Guadalcanal" would be licensed as WVOQ.

The "studio" was equipped with a rudimentary mixing console and a Presto Model "Y" disc recorder that doubled as the program-transcription playback turntable. A good shortwave receiver was critical (a favorite shortwave receiver was the Hammarlund "Super-Pro"). Some stations actually built diversity-receive systems to improve reception.



A typical broadcast package: note the simple mixer and a turntable that pulls double-duty — able to cut or play back discs.

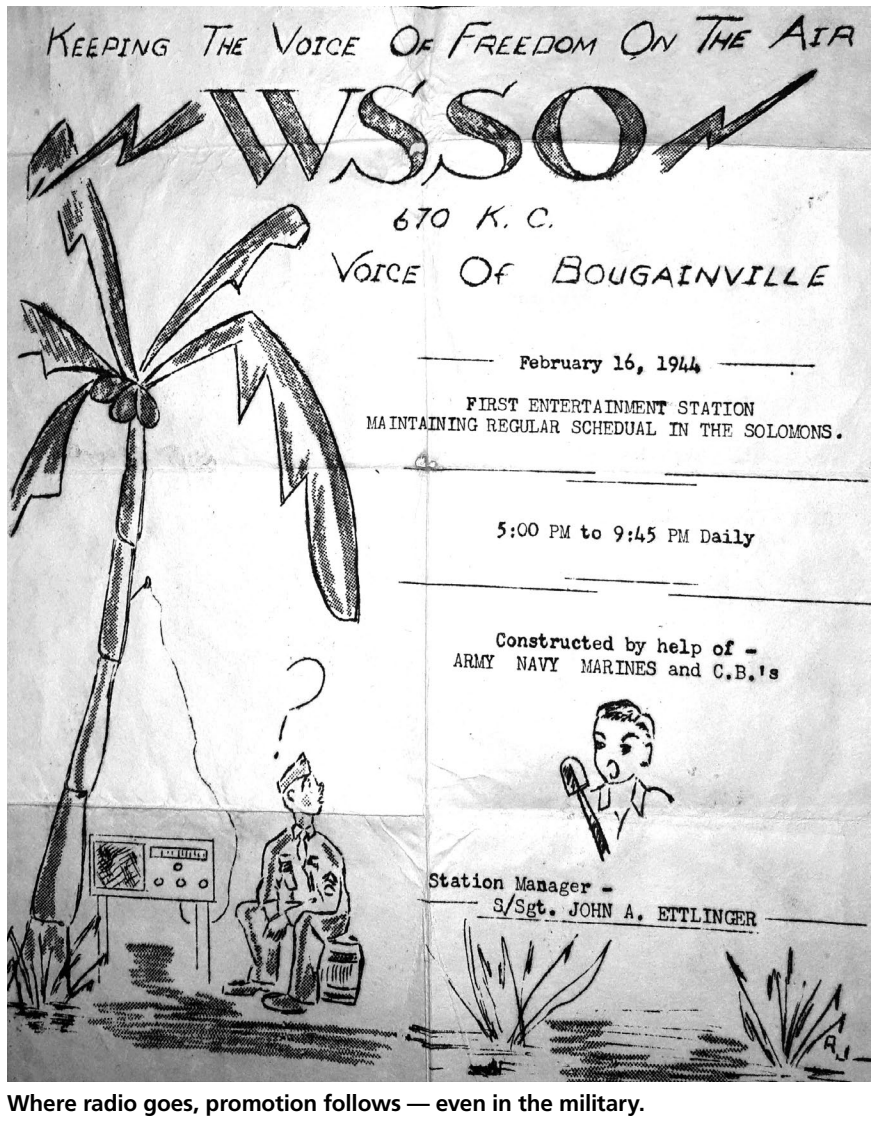
Soldiers in the field listen to a broadcast.

A staff usually consisted of five or six soldiers. The station kept an intermittent schedule based around troop downtime and usually went quiet around 10 p.m. local time. The typical broadcast week was 80 to 90 hours; part of that filled by shortwave programs from the states. Forty to 50 hours per week were shipped by AFRS, and the rest of the flexible schedule was "live and local" — GIs-talking-to-GIs (a precursor of "Good Morning Vietnam!").

Power for the station came from a shared generator. At night, when the load on the generator often increased, record speed would vary with generator load.

Of course each island station had its own story to tell: soldiers shinnying up palm trees with a wire in their teeth; "studios" usually in tents (sometimes made more soundproof and weather-impervious by the addition of a second tent above the first). Some listeners may have had the "Buddy Kits" or perhaps a radio sent from home … or maybe something home-built by the tech-savvy soldier. The stations were also rebroadcast on hospital and mess-hall PA systems and on ships within reach.

It didn't take long before each station had 100% listener penetration.



Photos from The National Archives

Where radio goes, promotion follows — even in the military.

Live stateside programming was usually captured from shortwave stations in California (John Schneider and Dr. Adrian M. Peterson have told their stories in Radio World). There were, however, two problems with this arrangement: 1) Shortwave propagation to the Pacific was generally at its best during the period when American radio networks were silent and 2) the politics behind AFRS and the rules of the International

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Community Broadcaster Rocket Fuel

Community radio podcasting gets a boost, and a reminder of its potential

COMMENTARY

BY ERNESTO AGUILAR

The author is membership program director of the National Federation of Community Broadcasters. NFCB commentaries are featured regularly at radioworld.com.

Ernesto Aguilar

There was big news recently on the podcast front for community media outlets. Community radio hosting service Radio Free America emailed its partners to announce a pilot project in collaboration with a nonprofit journalism funder to adapt programming from its member stations for podcast distribution.

RFA's announcement is perhaps the first real rocket fuel as far as developments in community media podcasts go. According to the message, Radio Free America will format a station's terrestrial originated radio programs for wider podcast distribution at no cost.

NEW AUDIENCES

RFA's Jeff Abrams, a former head of community station KRBX/Radio Boise, commented, "In addition to providing free access to thousands of archived community radio shows every week, Radio Free America is now working with stations to serve new audiences by adapting their locally-produced public affairs programming for podcast distribution. RFA feels that by using all delivery mechanisms, stations and producers can stretch the reach of their content, and thrive at a time when audio is bigger than ever. It's really just another way to accomplish their local mission. It's the natural extension of their core area of expertise. There's no reason why great radio shows should only be heard on the radio."

Abrams adds that Radio Free America does expect to introduce advertising inserts of various types, but has not decided how these messages will be implemented or what the editorial nature of them will be. However, RFA expects to consult with stations ahead of making any decisions regarding ads. In addition, RFA's monetization model does include revenue sharing with its participants and other content partners "at an appropriate juncture."

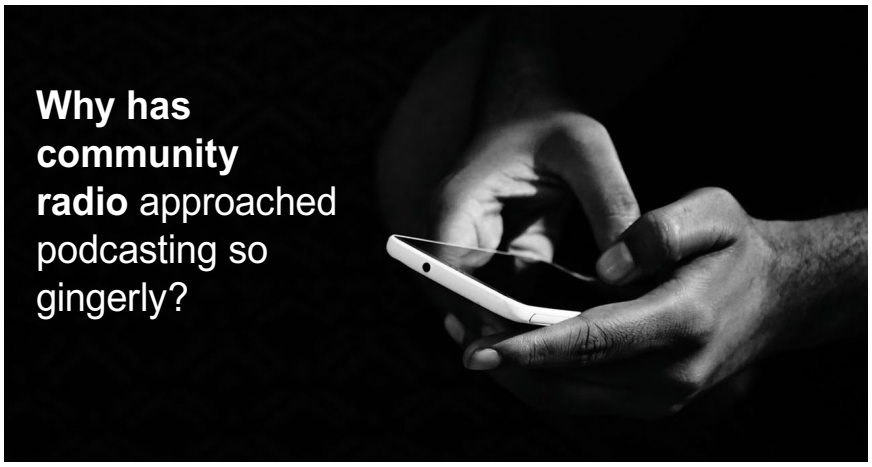
RFA moves from its traditional archival vertical into a relatively wide-open space. Virtually none of the known podcast players have been associated thus far with community media, either radio or the Public, Educational or Government (PEG) television side. How this absence came to be bears examination.

Truth be told, there are some dynamic community radio podcasts for sure — check out superlative podcasts like WXPR's "We Live Up Here," Marfa Public Radio's "West Texas Talk" or WTIP's "Boundary Waters" podcasts as some of the best in class. However, it is fair to say there may be some unrealized potential so far. There are perhaps a dozen or more quality community radio productions that would flourish brilliantly as podcasts, but lack the wherewithal to make a splash in the already crowded podcast system.

OBSTACLES

It is possible community media's pace may be a deterrent. Why has community radio approached podcasting so gingerly? Literally every station certainly has high-quality gear and studios that would make any podcast sound good. Instead, the hesitation may be due to resources, lack of clarity on digital capacity, or any number of issues. Potential partners could see this lack of in-house skillsets and local investment in podcasting to be a major obstacle. In this regard, RFA's commitment to handle the production end of the work and give technical know-how may be exactly what community radio stations with the right talent need to get ahead in the podcasting space.

As an intervention of sorts, content quality has to also be acknowledged as a stumbling block. Unfair though it may be, it is not hard to find those who perceive community media content to be inconsistent and at points marginal. It can be on occasion, and more than occasionally in some pockets. Addressing this issue may simply come down to stations countering that perspective by delivering more with what they have, where possible, and zeroing in on audience needs over internal inclinations, which may favor a bygone sound. To be clear, there are many stations offering top-shelf podcasting and content. May they inspire others to raise the bar locally.



THE TIME IS NOW

As more radio listeners and younger demographics are being wooed to podcasts, rarely has there been a better time for community radio stations to hop into podcast offerings. These podcasts could be original productions or repackaged radio programs — and more studies indicate audiences like to hear traditional radio shows in an on-demand fashion as podcasting inherently provides. Audience interest is growing. Stakeholders such as governing boards love a station in the podcasting game as well. In addition, radio station donors want to see their dollars put to work keeping a station up with the times, as podcasts undoubtedly are doing for organizations like KPCC, which just launched a local podcast studio.

Still, it is incumbent on a community radio station to consider where podcasting fits into its strategic plan for its content and programming. Stations have so many competing priorities at any given moment that each needs to decide the time, resources and attention station podcasts can occupy. Such may call for a review of a station's long-term objectives and its allowances for emergent needs. With proper focus and balance of all the demands at the station level, however, there are many wins to be had.

PACIFIC RADIO

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Telecommunications Union (ITU) dictated that programming must be shorn of its commercial content. This last was a new task for pre-eminent studios such as Radio Recorders in Hollywood. Such service providers had been recording network shows for delayed West Coast broadcasting. Deleting commercials from these disc-recorded network programs required them to learn "The Three-Turntable Two-Step."

Many of the Pacific island stations were informally part of the "Mosquito Network" or affiliates of the "Jungle Network." Stations in the Central Pacific (often by and for the Navy) were part of "PON" (The Pacific Ocean Network).

There were probably 50 or more island stations installed, removed and relocated in 1944 and 1945. Their numbers diminished rapidly as the Allies congregated closer to Japan. And as the war wound down and ended, the AFRS stations came together in the Philippines and Japan as the long-lived "Far East Network."

Photo from The National Archives

GIs listen to a radio, possibility one of the AFRS broadcasts.

Chances are that if your father or grandparents served in the Pacific during World War II, he, she or they would have been informed and entertained by these stations.

They brought the front lines just a little closer to home.

Mark Durenberger is a technology consultant with the Minnesota Twins and has six decades of broadcast and satellite experience. Mark began his contributions to Radio World forty years ago. Reach him at mark4@durenberger.com.