

Radio World

The Newspaper for Radio Managers and Engineers

REPRINTED FROM FEBRUARY 15, 2006

WWW.RWONLINE.COM

FM Project Shakes Up Islands

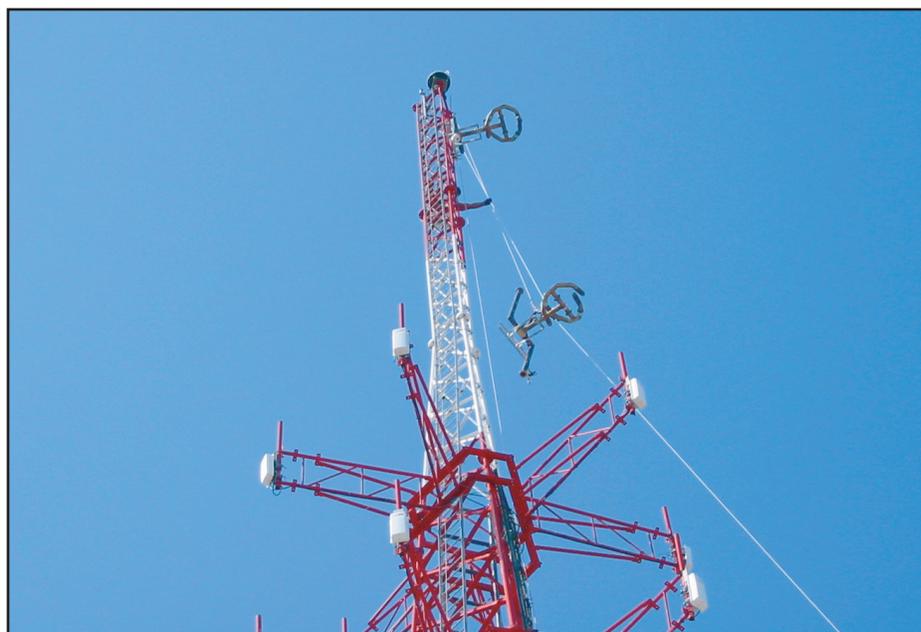
by Chip Morgan
President
CMBE Inc.

BURLINGTON, Vt. Our firm works with radio stations all over the world, on five out of seven continents, so we weren't surprised when we received a call from a company in the Cayman Islands that was going to build three new radio stations that needed to be on the air in 60 days.

Many of our projects are fast-tracked or emergency projects, and we have a long history with manufacturers of broadcast equipment. This project was for three complete stations, from microphone to antenna; the only thing existing was the tower.

We needed a broadband high-power antenna to handle the output of a three-station combiner with a total input of about 15 kW. The antenna should be omnidirectional and able to withstand the high winds from hurricanes that routinely sweep through the area. In fact, the tower we planned to use was one of the few towers that had survived Hurricane Ivan, which had devastated the Cayman Islands only a few months earlier.

We specialize in special antenna systems needing high performance in one way or another. Sometimes it's light weight and high power, sometimes it's maximum coverage in specific target directions, other times it's critical coverage on the back side of a side-mount directional array, difficult RFR control or special combining conditions. Our antenna projects are rarely standard. We're often asked what brand of antenna we prefer, and the answer is always the same: It depends on the project.



A bay of the antenna is lifted into place.

Detail

In this case, we chose **Propagation Systems, Inc.** of Ebensburg, Pa., to build the three-station antenna in the Cayman Islands.

PSI can provide most of the commonly used FM antenna elements including ring stub, skewed V and rototiller. The rototiller design can more easily be made broadband than the other common elements so we decided to use it in this case.

A call to Doug Ross at PSI confirmed that they could build it quickly and meet the specifications for the project. The antenna needed to be a four-bay 0.8 lambda with rigid interbay lines and able to handle 5 kW input at each frequency (104.1, 106.1, 107.1). We also ordered a broadband vertical dipole as the backup antenna for the system.

PSI isn't the only antenna company that could have done this project, but its quality of construction is excellent and price is competitive. Performance of the antennas and of the company is stellar.

Because we don't work with clients who want off-the-shelf systems, antenna manufacturers need to take more time and pay more attention to detail with our projects. PSI has been great about doing the little things that we consider to be a big part of antenna performance. It's clear that each project is important to PSI and we work closely with the people there to give them feedback about the needs of the project and the final results.

After shipping over land to Miami and then by boat from Miami to George Town, then through the maze of Camanian Customs, the antenna emerged with some

Radio World

The Newspaper for Radio Managers and Engineers

REPRINTED FROM FEBRUARY 15, 2006

WWW.RWONLINE.COM

continued from page 1

damage on the inter-bay lines due to excessive pressure from the tips of pallet forks being applied directly through the shipping box. Because we had arranged shipping through PSI, and the package was insured, it was no big deal to wait a few more days for replacement parts; and Doug handled the insurance matter personally.

We hung the antenna and line and swept it with a network analyzer. Even though each PSI antenna comes with a fine matcher, no tuning was required and we were able to go on the air right away with launch programming that featured the sounds of pirate ships coming ashore and AM-style tuning sound effects including lots of static, whistling, noise and mayhem. This was simulcast on all three frequencies for 48 hours.

We probably should have used different programming, because the performance of the system blew all the local stations out of the water. We were the loudest, cleanest, most powerful thing on the dial.

tion on their '70s vintage Realistic record player/radio with 4 inches of exposed coaxial center conductor looped through the hole of the window curtain rod.

We offered to supply a free outside antenna, but the well-built facility ended

We needed a broadband high-power antenna to handle the output of a three-station combiner with a total input of about 15 kW.

People complained that all they could hear was interference from the station (the pirate launch static) and one of the government stations with studios very close to the antenna could no longer receive their sta-

up shaking up the FM planning a bit there. The rest is history.

For more information about PSI, call the company in Pennsylvania at (814) 472-5540 or visit www.psibroadcast.com.

For more information about our Powertiller™ model and other FM and TV models, please contact our sales department.

Phone: (814) 472-5540

Fax: (814) 472-5676

Email: sales@psibroadcast.com



Propagation Systems, Inc.

Quality Broadcast Antenna Systems