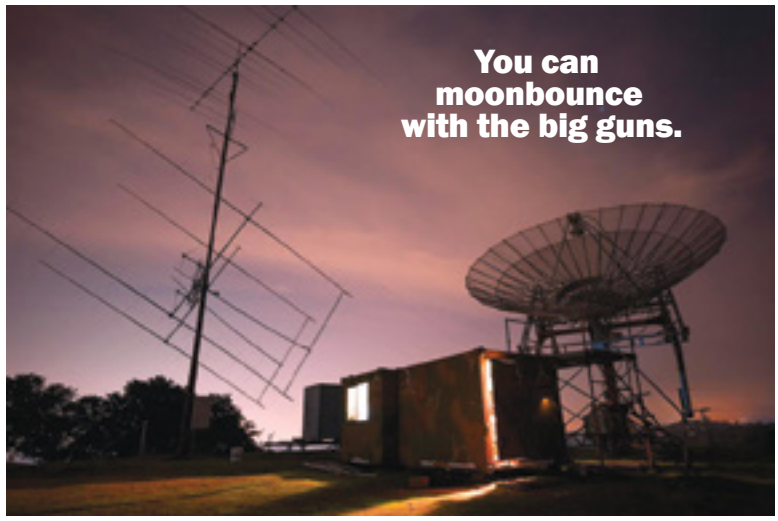
2014 EME Contest Results

Rick Rosen, K1DS,
rick1ds@hotmail.com



The W6YX EME station from Stanford University took second place in the Multiop, All-Mode, All-Band category. A bit bigger than the average station's, the antenna farm consists of a four-Yagi, cross-polarized, five-wavelength array on 2 meters and an 8-meter dish for 23 centimeters. [Lisa Ji, photo]

Hundreds of stations around the globe focused their antennas on the Moon during the three ARRL EME Contest weekends this past fall. From 144 MHz through 10 GHz, the airwaves were ringing with CW and digital activity and yes, you can do it too!

Despite concern that it's extremely difficult to work stations in this mode without special equipment, many were successful using modest power and a single Yagi antenna. Fortunately, the "big gun" stations with large multi-antenna arrays and huge dishes are able to communicate with the simplest of stations. Try it — you'll be amazed at what can be done, even with a single long Yagi aimed at the horizon at moonrise or moonset and about 100 W of transmit power.

The Right Stuff

What do you need to make an EME contact? Get the antenna and receive portion established first. Start by noting where the Moon rises and sets at your transmit location and consider how you will aim your antenna. You can use moonrise and moonset for about an hour during each "pass," or add elevation and track the Moon with your antenna during its full passage. Two meters is often a starting band for many, although some jump right in on 432 MHz or the microwaves with gear for 1296 MHz. A long Yagi and a low-noise, high-gain preamp mounted at or as close to the antenna as possible is next. Maximizing gain and minimizing noise is essential to hear or decode the very weak reflected signals that have traveled almost a half million miles round trip. Short runs of low-loss coaxial cable help. Once you have the receive capability, add transmit power, amplifiers, and antenna changeover relays to protect the sensitive receive preamp. There is an excellent chapter on EME theory and operation on the CD-ROM included with the current *ARRL Handbook*.

Outside the contest, you can find stations that are on the air and their frequencies by using information found on various reflectors at **vhfdx.radiocorner.net/EME/loggers.html**. Some weekends are optimal for EME when the Moon is at perigee and activity is highest. There are also several EME activity weekends sponsored by the Italian ARI (**www.ari.it**) and *DUBUS* magazine (**www.marsport.org.uk/dubus/eme.htm** — April 25 and 26 is the 1.2 GHz weekend this year).You may be able to hear CW EME QSOs by ear or decode JT65 signals using the WSJT programs available at **physics.princeton.edu/pulsar/k1jt**.

Scheduling a first QSO with a large, established EME station is often useful. Patience and personal resolve are essential. Top-scoring stations are certainly appreciated by the smaller stations, which are able to easily find their signals and complete contacts.

Who's on the Moon?

Seventeen percent of the entries — 21 out of 123 — were from the United States. The other 83% were DX participants from every corner of the world, including the Åland Islands (OHØ), activated this year by the portable team of Mike and Monica, DL1YMK. Typhoon winds brushed the coast of Japan, causing some of the JA operators to anchor their dishes for parts of the first activity weekend. Mr Murphy was making his rounds as many reported cable, connector, and relay problems — EME stations have a lot of connected parts, both stationary and moving. Although some of the entrants from last year's EME contest were missing from this year's log submissions, the total submitted log count was up by 5%.

The 2015 ARRL EME contest weekends are scheduled for September 5 – 6 for 2.3 GHz and up, followed by October 31 – Nov 1 and Nov 28 – 29 for 50 MHz through 1296 MHz. Check out the calls of EME contest participants to find an EME Elmer near you. There are also moonbounce reflectors for discussion of technical and operating issues at **moon@moonbounce.info** and **moonnet@mailman.pe1itr.com**. The excitement of EME operation will grab you. Get started now!

Top Scores in All-Band Categories

Call Sign	QSOs	Mults	Score
Single Operator, All-Mode, All-Band			
UA3PTW	328	147	4,821,600
Single Operator, CW-Only, All-Band			
OK1CA	142	96	1,363,200
Multioperator, All-Mode, All-Band			
K1JT	341	167	5,694,700
Multioperator, CW-Only, All-Band			
SP6JLW	124	67	830,800

Get More Online

The complete report of activity, conditions, and all of the scores are online in the full results at **www.arrl.org/contest-results-articles**. There you'll find more articles, pictures, and sidebars from a small single op and a large multiop EME operation.