The ARRL’s 10 GHz and Up contest, held August 18-19 and September 15-16, 2007, is like no other contest for so many reasons. First off, like the pre-WWII UHF Relay days, scoring is based solely on distance and there are no “multipliers.” In order to maximize your distance-based score, it requires that you sharpen your operating skills, improve your equipment, be aware of what propagation modes may be available and push the known limits about what can be done on all fronts.

So what kind of distance can be worked on these “Ultra Highs”? Line-of-sight? Maybe 1 or 2 kilometers or more? How about 1460 km! During this year’s contest a new North America 10 GHz DX record of 1460 km was set between Gary Lauterbach, AD6FP, operating from CM96wa and Frank Kelly, 4C2WH, operating from DL34wt. But they were not the only stations working some long DX. For the contest as a whole, 16 different 10 GHz stations worked at least 1000 km! The average “Best DX” from all 113 competitors was 481 km and two thirds of all operators report making at least one contact out to 300 km or better. On 24 GHz, the best DX was 246 km, on 47 GHz it was 218 km and using visible Light, Clint Turner, KA7OEI, reported a 172 km QSO. Now that’s DX!

Another aspect that makes this contest unique is that the majority of contestants operate portable, all in search of long clear vistas free from RF absorbing foliage. There is no staying at home in the comfortable operating chair for most of these operators. Microwave contesters are not only skilled operators; they have to be tough to endure what Mother Nature hands out. Operating portable means combating rain, bugs, gas prices and perhaps our number one enemy, the wind. With a beamwidth of just a few degrees, keeping a 19 inch or larger dish antenna aimed properly in the face of wind and rain is no easy task. Be sure to visit the 10 GHz results at www.arrl.org/contests for a great sidebar story from Bruce Richardson, W9FZ, to see how a small group of 10 GHz contesters battled the elements while trying out new microwave paths in the upper Midwest.

10 GHz Only Results

The big news here is the new North America continental tropospheric propagation (tropo) record of 1460 km between AD6FP and 4C2WH. Gary and Frank took full advantage of the major tropo duct that appears along the California and Mexican coastline. How good was the Baja duct this year? The old DX record was broken multiple times. W6CWX worked a 1247 km path into Mexico using just 200 mW and a 16 dBi horn antenna, and KC6QHP reported working the /XE guys at 741 km from inside his apartment building while looking in the opposite direction! Also taking advantage of that same tropo duct was our 10 GHz Only winner Mike Ramirez, 4B2WB, with a total score of 173,020 points. Mike was able to make 299 QSOs with 55 different stations. Reviewing the 10 GHz Only category shows that the top 11 spots all belonged to either /XE or 6-land stations. Dale Clement, AF1T, was the highest placing non-California, non-XE station with a 12th place finish of 27,629 points. Dale also had one of the longest contacts outside of this same region at 635 km along with W3HMS and WA3PTV. The title for the greatest number of QSOs goes to 4B2WB with 299, while the title for the greatest number of different calls goes to AD6FP with 62. Looking at the participation by region, it’s not surprising that 6, Ø and 1-land together accounted for 71 of the 115 entries, or nearly 62% of logs received. This year 7-land showed a nice increase in activity going from just two entries last year to five this year.

10 GHz and Up Results

Starting in 1996, the 10 GHz Contest rules were modified to include a second contest category for those stations operating on the bands above 10 GHz. This year there were 38 stations competing in this competitive group, essentially no change from the 39 entries last year. Of these 38 stations, 35
operators reporting on 24 GHz and 16 on 47 GHz. Just 13 stations report having made contacts on 10, 24 and 47 GHz. Congratulations to those few! There were no reported contacts on the bands between 47 GHz and Light and just one reported QSO on Light.

The winner of the 11th running in the 10 GHz and Up category is Wayne Yoshida, KH6WZ, with a score of 76,984 points. Wayne’s 197 contacts also captured the greatest number of QSOs in this category. In all, eight of the Top Ten slots were captured by those operating from 6-land with only 0-landers N0IO and WB0LJC cracking into this top group.

Dropping in at 6th place was Mark Lewis, N0IO, with 24,140 points. Mark was the highest placing non-6-lander in this operating class. It’s no coincidence that Mark also had the best DX on both 24 GHz at 246 km and 47 GHz at 218 km sharing those honors with Phil Lee, W6HCC/0. Mark’s key advantage was not a coastal duct, but the lofty vista provided by Pikes Peak, Colorado at over 14,000 feet. Those of us who live in the low flatland can only dream! On 24 GHz, Mark used a homebrew transverter based on a DB6NT board with a 10 MHz locked LO, a homebrew preamp with a 1.8 dB noise figure and 28 dB of gain, a surplus 500 mW amplifier and a 21 dBi horn antenna. Mark reports that this contact took place between Pikes Peak (DM78lu) and a spot in Wyoming (DN71nb) that has a great view to the south. On 47 GHz, Mark used a homebrew harmonic mixer with a 10 MHz locked LO, a DB6NT amplifier providing a 4.8 dB noise figure and 35 mW of RF output to a surplus 12 inch PCom dish antenna fed with homebrew WR22 waveguide. On 47 GHz W6HCC/0 was listening with a bare mixer connected to a 12 inch dish antenna. Mark reports that W6HCC/0 50 mW was 10 dB out of the noise on this 218 km path. Following this contact Mark reported a 47 GHz 175 km QSO with K0RZ. K0RZ’s SSB signal was 30 dB above the noise.

Looking Ahead — the 22nd Running

As Ron Simpson, N6GKJ, said in his contest soapbox, “I want to thank each and every one of the stations that I contacted. I learned something very valuable and important from all of them...never give up...keep going, the thrill is the farthest contact, the chase is worth it!” Well said. Congratulations to all 113 microwave enthusiasts who participated in the 2007 contest. You can see that this contest is like no other, in many ways. Now is a good time to start to think about this year’s contest, so mark down August 16-17 and September 20-21, 2008 in your calendar.

Feedback

◊ The photo caption of President Joel Harrison, W5ZN, with Senator Mark Pryor [Jan 2008, p 13] identified the senator as a Republican. He is in fact a Democrat.
◊ In “2007 ARRL International DX Phone Contest Results [Oct 2007, pp 95-100], KA5PVB was incorrectly listed in the Single Operator, Low Power category. He should have been listed in the Single Operator QRP category. This change puts him in fourth place overall in his correct category. The ARRL regrets the error.
◊ In “Building the Tinker Box” [Jan 2008, pp 35-38], the schematic in Figure 1 is an authentic based on the original; however, it introduces a safety risk not acceptable in peacetime. There is no bleeder resistor in the power supply to discharge the filter capacitor after turning the set off. We suggest that those building copies insert a bleeder of around 40 kΩ at 10 W in parallel with C11. As with any safety device, always assume it has failed and ground the positive side of C11 with a shorting stick to be sure.
◊ In “Product Review—ICOM IC-R9500 Communications Receiver” [Jan 2008, pp 69-73], Table 1 on p 71 has two errors. The correct value of the measured IMD DR for 14 MHz at 5 and 2 kHz spacings is 92 and 81 dB, respectively.
◊ In “Feedback” [Feb 2008, p 44], pins 4 and 5 of the opto-isolator are reversed.
◊ In “Hints & Kinks” [Feb 2008, pp 80-81], the item “Two Speed Soldering Iron” actually reduces power by 50%, not 75% while the diode was inserted in the circuit. This is a result of the duty cycle being reduced by 50%.
◊ In “Old Radio” [Feb 2008, pp 96-97], the modified electronic keyer schematic did not show the pin connections for the change to the 6C4 triode. The pins are as follows: filament, 3 and 4 (not center tapped); grid, 6; plate, 5 (or 10) and cathode, pin 7.