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LF

G3YXM discusses some LF tests from near Vladivostok, and some surprising trans-Atlantic signals. He prepares to welcome more newcomers to LF, while reporting, with some trepidation, a new commercial transmission on 135.6kHz.

From 16 – 27 March, RU6LA and friends took a trip to the far eastern part of Asiatic Russia. The site, in locator square PN63CH near Vladivostok, had a 90m tower from which they could hang a pretty efficient wire aerial. They decided upon a 220m folded long wire with a maximum height of 80m (see **Fig 1**) and two 2km-long Beverage receive aerials.

The transmitter was the trusty valve unit based on an old audio amplifier which they have used on previous expeditions. It produced the (Russian) regulation 100W very reliably.

The operators were, Ed, RU6LA, Vic, UA9OC, Vlad, UA0LE (whose callsign they used), and Andy, RA0LGH.

The transmit mode of choice was 60s QRSS, and the intention was to run beacon transmissions in order to judge conditions, and then try for contacts with both Western Europe and New Zealand. As it turned out, the path to New Zealand seemed to be much more favourable than that to the west, and a contact with the ZL6QH club station, at Quartz Hill near Wellington, took place at the first attempt. The New Zealand station was using the special call ZM2E, which had the advantage of taking considerably less time to send on DFCW than ZL6QH! The distance of 10,311km is a new record for a two-way 136kHz contact.

During the expedition, many LF operators in New Zealand reported a good copy of the transmissions from Vladivostok, so the largely sea-path to ZL seems to be quite reliable, given favourable conditions.

To the West however, things were not so easy. Good contacts were made with RU6LWZ at 6,800km and RN6BN at about 6,900km, but there was no full identification of the signal in the UK. The short period of mutual darkness made things more difficult, as it coincided with the noisy early-evening period at this end of the path.

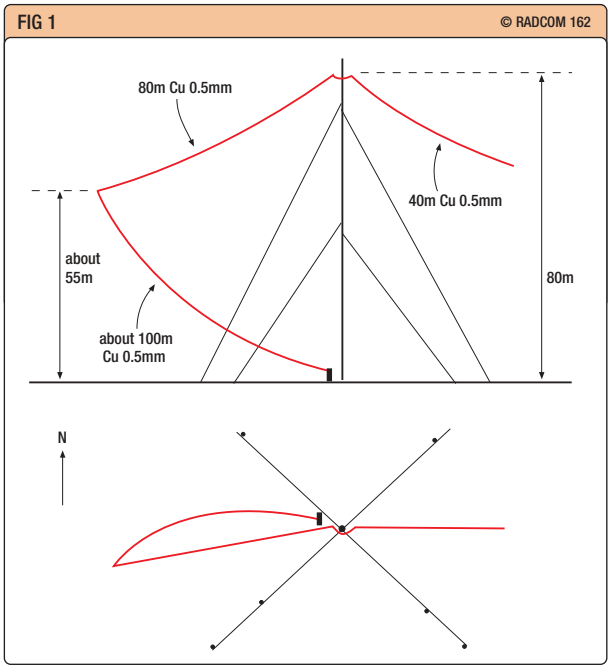

Fig 1
Details of the aerial near Vladivostok, in elevation and plan views.

TRANS-ATLANTIC NEWS

Meanwhile, the trans-Atlantic tests have continued, with Jack's regular transmissions from VO1NA being received throughout Europe. The best distance achieved so far is to Sam, RN6BN, at about 6,600km.

Jack has managed to make several contacts with British stations using various speeds of QRSS, G3LDO and M0BMU being the most recent stations to make a two-way contact. On one occasion, Jack's signal was received in QRSS1 (1s dot length) which is only a few dB short of an audible CW signal! This is all the more remarkable, considering the low power used at VO1NA. Jack's 100W transmitter is not very big for LF, the low efficiency of most amateur aerials means that 1000W is usually necessary to get anywhere near 1W ERP.

One evening in March, 'Part 5 Permit'-holder John Andrews, W1TAG, had a surprise when airing his newly-acquired callsign, WD2XES. He chose a frequency close to that of VO1NA, so that anyone looking for Jack's signal would have a chance of picking up his. To his amazement, he saw his signal on CT1DRP's live screen-grab at about 0300UTC. This was the same time that VO1NA's signal peaked.

UA0LE, UA9OC, RU6LA and RA0LGH during the ZM2E contact.

On this first attempt, John was only running 75W of RF into his big loop, an even lower ERP than VO1NA, and at a greater distance from Europe. He has since been received by G3LDO.

NEW ON THE BAND

The new experimental permits continue to be issued in the states but, as most of these are not permitted to make contacts, they only give scope for listener reports.

Laurence KL1X/5 is now installed in his new location in Bartlesville, Oklahoma and able to listen on LF. He reports that the noise levels are low and the ground conductivity is good, but there's no news yet of the reissue of his WD2XDW permit at the new site.

Over here we have the prospect of a new influx of stations on the band as the old 'Class Bs', who still have a love of experimenting at the margins of feasibility, come on to 136kHz. I have heard statements of intent from several people but no signals yet...

It is interesting that a high proportion of LF enthusiasts seem also to operate on 6m, microwaves, or even laser communications!

Over the last few months, John, G3JRL, in Weymouth, has been steadily improving his LF setup. His persistence is at last being rewarded with some CW contacts. Listen out for him during evenings and weekends.

Returning to the band after an enforced absence is Whitton club station, G0MIN. The trees that had grown around their long-wire aerial have had to be cut down as they were causing cracks to appear in the building. Every cloud has a silver lining!

MORE QRM ON THE WAY?

Geri, DK8KW, sends the following worrying information: "It seems that Hungary plans to set up a remote control transmitter similar to DCF39 on 135.6kHz by end of this year. It is planned to make use of an old 314m-high tower near Budapest known as 'the cigar' because of its shape.

"The planned protocol will be similar to the DCF39 transmissions. It is not yet clear if the quoted frequency of 135.6kHz is the mark, the space, or the centre of the transmission. I hope that we will not suffer from the planned 100kW transmissions, but benefit from them in the same way as we do by using DCF39 as a beacon and propagation indicator."

This is very close in frequency to the Greek transmitter which causes some interference around the eastern Mediterranean area; let's hope it doesn't have a similar effect across Eastern Europe. ♦