

LF DXpedition to the Isle of Man

By Graham Phillips, G3XTZ*

IN AMATEUR RADIO terms the 136kHz band is brand new. Many of our present High Frequency allocations hail from the 1947 Atlantic City Conference. The 21MHz band was added in 1952 and the 10MHz, 18MHz and 24MHz bands were released in 1979. In 1997 the 73kHz band became available, but only to those who applied for a special Notice of Variation. Because of the great difficulties involved in persuading an average size of antenna to radiate a reasonable signal, very few amateurs have attempted transmit operation on 73kHz and the band will be withdrawn in June 2000.

A NEW AMATEUR BAND

ON 25 JANUARY 1998 the 136kHz band was made available to UK stations, with the possibility that many more countries would eventually gain access. The band is only 2.1kHz wide, so fairly slow CW is the main operating mode. Initial activity was rather low, but some stations transmitted 'beacon' Morse signals and this allowed others to develop receive capabilities. It was quite exciting; I remember a telephone call from PE1ABR to say that he was receiving my signal across the North Sea!

FIRST IDEA

OVER THE FOLLOWING two years, other countries have gradually appeared on the band. In October 1999, David Bowman, G0MRF, realised that one of these countries had the 136kHz allocation, but no operation - the Isle of Man.

David contacted myself and Dave Pick, G3YXM, and the idea of an LF DXpedition began to take hold. We met at the HF (LF?) Convention in Windsor, and finalized most of the details. Most LF activity is at weekends, so we planned to travel on a Friday, operate Saturday and Sunday, and return on the Monday. David discovered that the lighthouse at The Point of Ayre was available as a holiday destination during the winter at an affordable price. The picture of the lighthouse showed that it was adjacent to the accommodation, the lighthouse keeper's cottage, and we had visions of borrowing the handrail, 30 meters high, to hang our wire aerials from. The

lighthouse is a very impressive structure, designed and built in 1815 by Robert Stevenson - the Grandfather of author Robert Louis Stevenson. It is situated in 17 acres of private grounds - perfect for the size of aerials that we had in mind! The Point of Ayre is a wide, low, flat promontory at the most northerly point on the island.

PREPARATIONS

THE COTTAGE AND ferry were booked for 19 to 22 November and we started preparations. It is a well known phenomenon in home-built LF transmitter circles that FET power amplifiers are prone to self-destruct (at one time I was averaging one QSO per set of four output devices), so we took four separate transmitters. We also had three receivers, five power supply units, a frequency counter, DSP audio filter, DDS signal generator, two laptop personal computers, three electronic keyers, two straight keys, three kites, several aerial tuning variometers, thermocouple current meters, SWR indicator, radiocode clock, miles of wire, three 15mm copper pipes, bundles of aerial mast sections, guy wires, guy pegs and loads of tools. We even managed to take some clothes, but had to leave the kitchen sink - it wouldn't fit in the car!

HEADING OFF

I LOADED MY PILE of equipment into the car on Thursday 18 November and set off from Ashford, Middlesex at 06.30 on the 19th to collect David, G0MRF, with his equipment from nearby Whitton. David had just started drinking a cup of coffee when I arrived, and after we had loaded his equipment and set off on the trip to King's Heath near Birmingham, he brought the almost full cup with him whilst I tried to avoid as many potholes as possible; no time wasting on this

expedition! We arrived at Dave's, G3YXM location at about 09.45 and loaded our equipment into his very spacious MPV. He had spent the morning wheel-barrowing equipment from his radio shack to the bottom of the garden and loading his car. By the time our equipment was also installed, we just about had three seats left. The trip to the Heysham ferry was fairly difficult, but we arrived with time to spare, had a snack, and boarded the ferry, sailing at about 14.15. The crossing was uneventful, rather an anti-climax after stocking up with travel sickness pills, and we docked in Douglas well past sunset.

IN A FOREIGN LAND

WE SET OFF northwards along winding country lanes, and finally saw the lighthouse in the distance. The accommodation seemed excellent, with all modern conveniences, but when we enquired about access to the lighthouse we realized that we might have difficulty using it as a skyhook. The lighthouse was automated and the maintenance engineer with the key was not on site. After unloading the car and setting up the shack, another problem arose - the sash windows had been recently painted, in the shut position! It was impossible to open any of them as an exit for the aerial feed.

FIRST OPERATION

UNLOADING THE CAR left room to set up Dave's portable station, a TS-850 for receive and a home-made 12 volt transmitter. We saw a signpost saying 'To the Shore' and drove down an unmade road towards the sea. At the end was a small car park by a pebble beach and while Dave raised the aerial with one of his Delta kites, David and I unrolled what seemed like miles of wire down the beach and threw it, complete with a length of copper pipe into the sea.

The kite flew very well, and after a quick tune-up Dave sent a quick CQ as GD3YXM/P on his trusty old straight key. Suddenly the 136kHz band sounded like the bottom end of twenty meters, about six stations all calling at once. The first QSO was with Reino, OH1TN, followed by SM4DHN, G4GVC, SM6PXJ and G6RO in quick succession. He transferred the key, and GD3XTZ/P appeared for the first time. I had contacts with G3XDV,



There was no shortage of gear in the shack.

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MM0ALM, OH5UFO and PA0BWL. David, using his call GD0MRF (without the /P, since he had arranged this with the authorities) then had more contacts.

Later, the aerial current mysteriously dropped; we seemed to have made contact with all stations on the band, and so we landed the kite. Upon reaching the shore to recover the earth, the strange case of the vanishing aerial current was solved; the tide had receded, leaving our earth rod high and dry! We departed for the cottage, pleased with our first day's operation.

THE SHORT-WIRE AERIAL

THE ALARM WOKE us at 07.00, and after coffee and toast we saw what could be done about a fixed aerial without the lighthouse. Dave had brought a 13-metre portable aluminum mast, and if located at the top of the steps leading to our first floor entrance, we could raise one end of the aerial to about 18 meters. A disused, 10-metre high foghorn tower was about 250 meters along the coast, and proved very easy to catapult a nylon cord across. The resulting aerial was around 200 meters long, insulated from the cord over the foghorn by means of Dave's patented 'old toothbrush' lightweight insulator. An earth wire ran from the ATU at the top of the stairs to the sea about 200 metres away. David attempted to hammer the copper pipe into the pebbles just below the water line and got slightly wet! Back at the cottage, we ran coax cable from the shack to the front door, located the variometer system just outside, resonated the aerial, and listened. The whole band was covered in electronic hash emanating from the lighthouse. Luckily, Dave had a folding loop receive aerial which he located about 50 meters away from the lighthouse, and we finally heard something. We made a quick call, and worked GW4ALG, G3GRO, G6NB and EI0CF for two new countries. Faint with hunger, we departed for Ramsey.

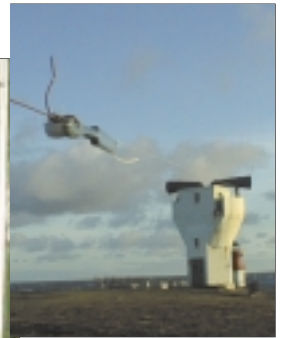
We spent a few hours purchasing provisions and enjoyed a proper meal in a restaurant before returning to the Point of Ayre to get the station ready for David's 73kHz exploits on Sunday. After dark, we returned to the shore car park, installed the earth and launched the kite. Again we had contacts including IK5ZPV, I5MXX, DK8KW,



GD3YXM retrieves an extremely bedraggled kite from the sea.



GD0MRF adjusts the ATU.



Toothbrush insulator at the end of the 200m-long antenna.

G3LDO and GD0MRF (David was rather strong, operating from the cottage station about 500 meters away, and gave us a good report!). Returning to the cottage, the station was adjusted for 73kHz, and GD0MRF tried for a QSO with G3LDO. Using a laptop computer with Spectrogram software, we saw Peter's signal quite well, but our signal faded with him before we completed the QSO. We arranged for another attempt on Sunday morning. The 136kHz station was put into beacon mode overnight, hopefully for trans-Atlantic reception, and we retired, again pleased with the day's achievements.

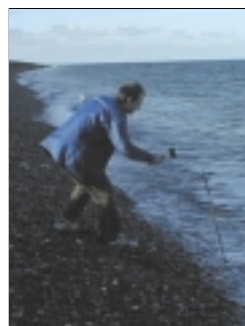
SUCCESS ON 73kHz

ON SUNDAY morning David, GD0MRF, finally managed the 73kHz QSO with Peter, G3LDO, and increased the two-way record on this band to 480km. After the first year of operation on 73kHz, this record stood at just 120 metres! Another signal appeared on the screen, and was identified as Mike, G3XDV. Once again the QSO could not be completed, so it was arranged to try again at 22.00.

BACK TO THE BEACH

WE ADJOURNED to the shore again, choosing a location where we could have a shorter earth lead, and managed to launch the earth pipe further out to sea. A second earth wire was laid for good measure and the kite flew well, the wind taking it out over the sea. This 136kHz operation added GI3PDN, DJ5DI, DJ5BV, PA0SE, PA2NJJ and several G's to

GD0MRF attempting to stay dry while he hammers an earth rod into the shingle.



The foghorn tower was ideally suited to support the far end of the 200m-long wire antenna.



the list. During this time, the wind became erratic, dropping the kite near to the sea, and caused much QSB. The kite finally dived into the sea and had to be very slowly pulled to land. After re-launching and transmitting, the aerial wire immediately fell from the sky, the kite fluttering down some time later. We had failed to realize that the string that joined the kite to the aerial wire was still wet, and as soon as RF power was applied it burnt through. After lunch we had a final spell with the kite aerial, but the wind was unpredictable, breaking one of the kites. Static was also building up on the aerial, leading to the game of 'chicken' to see who would connect the aerial to the variometer. A democratic decision was made - we packed up and headed for a pub! Ramsey seemed completely deserted at 18.30 on a Sunday evening, but David knew of a hostelry at Belaugh Bridge. We spent a pleasant evening there, returning for the schedule with G3XDV. This time signals were better and another 73kHz QSO was entered into David's logbook. At 23.30 the 136kHz beacon was activated for the night.

THE LAST DAY

IT RAINED overnight, but was dry by morning. A strong wind had stretched the aerial wire and was blowing it sideways. David worked GI3PDN for a final QSO and we took the aerial down, packed up the station and shoehorned it into the MPV. We spent the day touring the island, driving around the TT circuit (*not* at normal lap-speed) and had a long lunch at another pub. The ferry crossing was again very calm and we arrived back in Kings Heath at about 01.30 on Tuesday morning. After transferring equipment to my car, driving back to London, dropping David off with his gear, I arrived home at 03.45. I slept well!

EPILOGUE

WE HAD A great time, immediately agreeing that if a suitable destination appears, we would make another trip.

I would like to thank David, G0MRF, and Dave, G3YXM, for the adventure, and all the LF operators who made the expedition worthwhile. ♦