Feature

Charles Riley G4JQX describes a long and simple antenna.

# Pitcairn Islands – First Call!

For the past year or so I've been running a doublet, cut for 1.8MHz (160m)| and fed with open wire feeder. It's a long antenna and squeezing it in was a challenge. Sitting with the apex at 10m high it's been a reasonable performer for short skip work, but performance on 1.8MHz was poor and some of the higher bands didn't perform much better either.

I thought this was probably as good as it could get really, until a short skip c.w. conversation on 7MHz (40m) with a long doublet enthusiast persuaded me otherwise, by letting me in on a well kept secret!

It will probably come as no surprise to learn that the secret is height. We are all informed, by instruction, by fellow Amateur folklore, by technical books and by elaborate mathematic analysis, that the higher the antenna the better it will work. But how do you get the antenna higher without a tower or serious mechanical works that rob the doublet of its simplicity and cheapness. More importantly, will the extra height really make a difference operationally? I decided to find out.

Charles G4JQX demonstrates the imported American EZ Hang catapult.

## Aiming High

Getting wire antennas up and aiming high isn't easy! I've done a fair bit of tree climbing and hurling of stones with strings attached in the past, with a reasonable amount of success, but these methods are hardly to be recommended.

Virtually every year we hear of somebody falling from a height while working on an antenna and I didn't want to add to the statistics.So I began looking for ways of getting an antenna up high that didn't involve me getting exposed to any form of danger.

I'm blessed with having some substantial trees on the boundary of my garden, so they seemed an obvious choice as a support, but tall, high reaching trees have large wide spread branches and leaf canopies and the obvious way of getting myself high by using a cherry picker or some other elevation machine meant that the highest part of the tree couldn't be reached. What was needed was a way of getting well over the height of the tree – and a couple of these trees seemed to be approaching 20m or more in height.

## Fishing For A Solution

Searching the internet eventually came up with the "*EZ Hang*" an extraordinary name for a very unusual device. Produced in the USA by EZ Hang Inc. (see **ezhang.com**) the *EZ Hang* advertising shows that it is essentially a sling shot, but cleverly designed and fabricated in such a way that it makes hanging antennas from very high locations feasible – and safe.

The answer to my prayers it seemed, so I promptly ordered one directly over the Internet and four days later the postman delivered my equipment. That's when it became very interesting!

On first inspection the *EZ Hang* looks like a contraption that belongs in the *Dangerous Book for Boys* Christmas special edition. Looking like a cross between a cut down fishing rod and a stone slingshot, accompanied by a roll of brightly coloured string and some yellow lead weights, it didn't do a lot to inspire confidence that my carefully cut doublet antenna could soon be high up in a tree! However, I soon discovered that actually, this equipment was a subtle and clever mix of idea, invention and cunning.

Not reading the instruction booklet was probably my first, but usual, mistake. Like most people I assumed I knew how to use a slingshot having led a mischievous life when young! But using a professional one 'is something else'.

I rapidly deduced that the general idea was to attach a bright yellow lead weight to the fishing line, release the line spool and then fire the yellow lead weight into the air. The weight would carry the line behind it pulling it out from the "fishing rod" spool – so I went into the garden contemplating that firing a small lead weight into the air trailing a long length of nylon fishing line behind it wouldn't be much of an issue – after all anglers don't seem to cast their lines far!

## First Go!

The first shot I fired into the air without much effort saw the special metal weight and line clear the house, garden, the adjacent road, the farmer's empty pasture field and into a very distant hedge some 300m away. It took some considerable time for my dog and I to recover it all! It was time to read the instructions – I realised this wasn't

a device to be meddled with!

The basic concept of the *EZ Hang* is that a nylon fishing line attached to the bright yellow lead weight is fired into the air, over the top of a tree and recovered on the other side. The lead weight is easy to find because its bright yellow and it flies through foliage because of its pear drop shape. The slingshot is then left on the ground, the lead weight found and the bright orange recovery line is attached.

On returning to the slingshot the nylon fishing line is reeled back in (as you would with a fishing rod) and the orange recovery line is 'reeled' in using its own cleverly designed ground-mounted spool, which ensures there are no tangles.

The line is then detached from the slingshot. The orange line is then used to haul the antenna centre high up into the tree. This two stage process is important – the light nylon fishing line allows for high firing of the lead weight. It won't support the weight of the antenna – but the fishing line will allow you to 'pull through' a hauling line that will take the weight.

As I've already mentioned, it's cleverly thought out and very well designed from a practical aspect. The only thing I would recommend is that wearing a helmet is a good idea – a small piece of lead bouncing and ricocheting off a tree branch could leave an unpleasant head wound.

You can always try to make one of these yourself (try **surplusandoutdoors.com** for ideas) but getting the fishing line reel bit to work is probably a challenge, especially if you are like me (not a fisherman!) – but I've no doubt it's possible. I have certainly made a note in my home-brew ideas book for a rainy day – I'll let you know how I get on.

## Two Stage Process

The two stage process is repeated for either end of the doublet and within a couple of hours I had my entire 160m doublet up at around 25m. I had to lower it twice to add more open wire feeder line, as I hadn't expected it to go up so high. At this height, the antenna simply disappears – and the reason why the hauling line is such a vivid orange colour becomes obvious – you could easily lose the antenna if it wasn't highly visible!

Excited at the prospect of firing the antenna up, I laid out yet more open wire feeder back to the shack and realised now why doublets are so useful. An ordinary dipole fed with 50Ω coaxial cable, with appropriate balun would be a heavy weight up high in the tree and the costs of the coax cable would start getting excessive.

**The EZ Hang kit shows how simple it is in practice. However, using it takes practice and Charles recommends reading the instruction manual!**

Whilst not a big problem at h.f., I have no doubt the losses are building up too. I now had some 150m of open wire feeder running from trees to the house – no loss problems here.

## Bathroom Shack

My shack is built in what was the original bathroom. When the house was renovated I got the builders to replace the old soil pipe through the wall with a length of new plastic pipe and fill it with that clever expanding foam (that goes everywhere you don't want) when you use it yourself.

Its great for open wire feeder – push the two wires through the foam the right distance apart and you are done, it's self-supporting as it comes into the house. It certainly beats trying to persuade the double glazed window frame to accommodate the feeder when you close the window on it, which used to be my preferred but unpopular approach.

Incidentally, I had the builders leave the old overflow in place as well. That route takes my solid copper earth cable out the shack to the rod in the garden. At the end of the renovation, my enthusiasm had rubbed off on to my builder – and he's become a budding amateur. I also feared the renovation would never get finished, but that's another story!

## Straight To Pitcairn Island!

Readers may well ask – did the antenna work? My answer is – You bet it did! Firing up the trusty IC-756 on 10MHz late morning left me hearing **JJ8DEN** working from Pitcairn Island as VP6PR on low power calling "CQ" with no takers. So, **Yoshitake Izumi** was in the log first call at 50W, with the IC-756 auto tuner sorting out the matching for me.

Pitcairn Island was a new entity for me – and with a very big smile on my face I then sat and listened to Yoshitake calling "CQ" for the next 10 minutes with no other takers on what was a busy band. So, something about this antenna was working. During the day I worked A45, VE1, TF3 and finally to with a flourish, 6W in Senegal, all first call through varying size pile-ups.

Going from 10m to 20m in height was a revelation to me. The antenna has been transformed from an average performer to an excellent performer – and although a horizontal antenna will never outrun a vertical on 1.8MHz, I now regularly work into W and VE. What's more, the antenna has disappeared – it simply cannot be seen, whereas in its previous location it was a visual nuisance.

Try it – keep your health intact by trying what I did and use a helmet. And keep your wealth intact by keeping your antennas as high and as simple as possible!

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