The MyDel JPC Antennas JPC–7 & JPC–12

portable antenna kit

Two portable antennas for the 7MHz to 50MHz bands that are quick and easy to erect.

The JPC-7 case holds everything required to get on the air, including, two stainless steel telescopic whips that are each 34cm long when retracted and 252cm when extended. Two easily adjustable loading coils and four aluminum element sections that can be seen in **Photo 1**. The two loading coils that are used for 40m, 20m, 17m and 15m operation can be seen better in **Photo 2**. The overall impression is that the antenna is incredibly well crafted, and it is neat that it will all fit into one portable case. The antenna also came with a sturdy tripod, made by Interfit (**Photo 3**). The company is well known in the world of photography and the tripod didn't disappoint. Fully extended, the tripod is four metres tall, which brings me to an important point. When using the antenna, or any tripod–based antenna for that matter, it is vitally important that you use guy lines. These are not supplied, but can be easily bought from a pound shop, along with some stakes/tent pegs. If you use the tripod without any external support, you run the risk of it falling over and breaking something or someone – please take care here!

PHOTO 1: As supplied, the JPC-7 antenna neatly packed in carry bag.

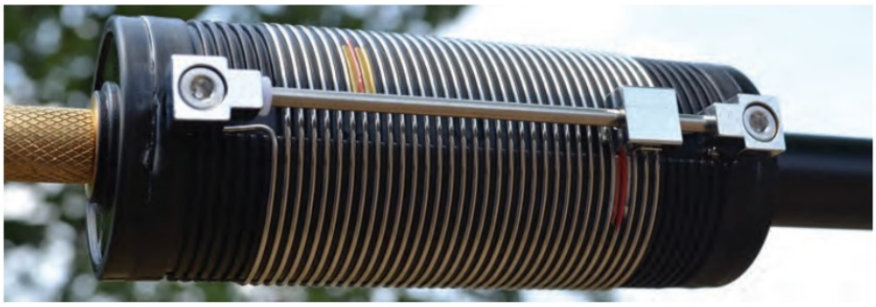

PHOTO 2: One of two loading coils that come with the JPC-7.

To begin

On opening the case the first task was to set up a 40m dipole. I selected the centre feed point and fixed it to the tripod. You can also set the antenna up as a V using the two supplied angle connectors and this is what I chose to do. I then screwed in two aluminium extension sections and then added the loading coils to them. Finally, I added the telescopic whips to the other end of the loading coil assembly and extended them fully. You then add the supplied 1:1 balun and feed point by plugging it into the centre section and connect the coax (**Photo 4**). The balun can be fixed to the tripod with a supplied Velcro tie if need be. Now, here I must add that the original instructions supplied were in Japanese, but by looking at the photographs and using common sense you can quite quickly work out how to assemble the antenna. In any case the antenna is now supplied with dedicated English instructions, although these also need some work – for example, "Baron" apparently means "Balun". Starting on 40m, you first must slide the taps along the loading coils until they are in the 7MHz position. These are marked in red so it is quite easy. Having pushed the tripod up to its full height it was time to start the test.

Operating

With the antenna at operating height (4m), I used an MFJ–269 analyser to check the SWR and found the lowest point was at

PHOTO 3: The high quality Interfit 4m tripod.

about 6.4MHz – in other words, the antenna was too long. At this point, you can either try adjusting the tapping point on the coils, but I found it easier to just drop the antenna and shorten the telescopic elements by a few inches, return the antenna to the operating position and make another measurement. It becomes an iterative process until you get the SWR where you want it for your chosen operating frequency. After a few attempts, I got the SWR down to 1.7:1 at 7.135MHz. The 3:1 SWR bandwidth points were at 6.972 and 7.294. In other words, you can cover the entire 40m band with an SWR below 3:1, but it probably pays to tune it to the part of the band where you wish to operate and/or use an ATU.

In use

I chose to compare the JPC-7 antenna with my commercial 132ft end fed half wave (EFHW) antenna. At least it gave me a benchmark, even if the JPC-7 is a lot smaller. Setting the rig at 7.074MHz USB, I soon had a screen full of FT8 decodes. With 50W it was very easy to make contacts and I quickly had a lot of German amateurs in the log. It was harder with 10W but not impossible. Moving up the SSB section of the band I quickly worked Alan, G7GLT in Bolton who gave me a 4/5 report with 10W. Compared with the 132ft EFHW, the JPC-7 antenna was 2-3 S-points down. As a portable solution for 40 metres, it is not bad, but you must bear this in mind when operating as its small size makes it a compromise. Pulling the tripod down I then adjusted the loading coils by moving the shorting bars to the 14MHz position (**Photo 5**) and pushed the antenna back up. By adjusting the telescopic sections I eventually got an SWR of 1.1:1 on 14.160MHz, with a 3:1 SWR bandwidth from 13.915-14.400MHz.

20m & 40m Bands

The antenna was much livelier on 20m and was an S-point better than my EFHW – in other words, it is a good performer on 20m. GB22HQ for the Birmingham Commonwealth Games was received at -13dB on FT8 and a host of other stations in Germany and the Netherlands were worked on the band with 10 watts. Moving on, it is possible to get the antenna onto 18MHz by moving the shorting bar on the coils. On 21MHz you move the taps on the loading coils almost to the end and adjust the telescopic sections for minimum SWR. I managed to get it down to 1.2:1 on 21.000MHz with 1.8:1 on 21.450MHz. The band was hopping with Saudi Arabia, Indonesia and Argentina booming in and once again the JPC outperformed my 132ft EFHW. On 10 metres you must remove the loading coils and then reduce one of the elements by about 7cm. This got the SWR down to about 1.5:1 and I quickly worked three Polish stations using 10W and FT8. Once again, it outperformed the 132ft EFHW! It is a similar process with 50MHz where you simply telescope the elements in until you get a low SWR. I didn't operate on six metres, but it is possible with a total dipole length of around 2.85m. You can also set the antenna up as a horizontal dipole, V dipole and L dipole so it is very versatile.

In conclusion

Overall, the MyDEL JPC –7 antenna is a very well made and compact solution for portable use. It probably needs a little practice to get the best out of it in terms of learning how to adjust the overall length and coil taps to get the lowest SWR, and it is best to do this before you try to activate a mountain top! On the higher bands it was a good little performer and it gives you access to 40m as well, which is a definite bonus.

The antenna, with a 4m high quality tripod and 5/8" adapter mount worth £118, costs £339.95.

My thanks to Martin Lynch & Sons for the loan of the antenna.

PHOTO 4: JPC-7 centre section and balun

PHOTO 5: The coil slider in the 14MHz position

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PHOTO 6: The MyDel JPC-12 portable antenna in the supplied case.

PHOTO 7: JPC-12 antenna base with PL-259 connection.

MyDEL JPC-12 portable vertical antenna

In addition to the JPC-7 antenna that we have just discussed, I also had the opertunity to test the MyDEL JPC-12 antenna. It is a vertical that uses the same technology as the JPC-7. Weighing in at just 1.4kg, the antenna uses the same components as the JPC-7, but only has one single loading coil and one telescopic whip. This makes it cheaper to buy, but it is just as versatile, allowing you to build a quarter wave vertical for operation on the 6 to 40m bands.

To Begin

The JPC-12, like its bigger brother, also comes in a neatly fitted nylon case (**Photo 6**) and has everything you need to operate portable. All you really should add to your kit bag is a mallet to knock the (supplied) ground spike in with. Martin Lynch says you should be able to erect the antenna in less than five minutes and proves it in their YouTube video (https://youtu.be/vFniPXOkDds). I agree that five minutes should be ample. Rather like the JPC-7, you assemble the antenna using the supplied parts. First you drive the ground spike into the ground with a mallet and add the supplied ribbon counterpoise/ground plane to the top, placing the ring terminal over the screw thread. Then, the base of the antenna (**Photo 7**) is screwed to the top of the ground spike, before adding the four mast sections, the loading coil and finally the telescopic section. The entire antenna is about 4.1m high. I split the ribbon cable radial/counterpoise into two equal sections, which no doubt helps with directivity. If you are really keen you could add more wire to the ground radials, which would reduce losses and improve bandwidth.

In operation

Tuning was comparable with the JPC-7 dipole in that you select a band and then set the shorting bars on the loading coil. I started off with 40m and so set the coil accordingly. The SWR was 1.8:1 at 7.100MHz. Unlike the JPC-7 antenna you don't have to take it down to adjust it, which is a bonus. The 3:1 SWR bandwidth was 6.745MHz - 7.3372MHz). Testing the antenna it appeared to be down a couple of S-points compared with my 132ft EFHW. But running back to back tests with WSPR shows that 51 stations heard me on the JPC-12 and 48 on the EFHW, so at least for digital use it is probably closer than you think. The average WSPR report was 5-6dB down on the JPC-12, but some reports were only down 1dB. In other words, while the JPC-12 antenna was down on my reference antenna it wasn't so bad and was still more than capable of making contacts. I then adjusted the shorting bar a little and managed to get a 1.3:1 SWR on 10.100MHz (with 3:1 SWR between 9.8MHz and 10.6MHz). On 14MHz I managed to get the SWR down to 1.5:1 (SWR 3:1 between 12.6MHz and 15.7MHz). Once again there was little to choose between the JPC-12 and my EFHW. In fact, some CW and SSB stations were louder on the JPC-12. Running FT8 and 10W I quickly worked OK2SBI in Czech Republic at -16dB, EA7GNT in Spain at -14dB and CT1BWU in Portugal on FT4 at +1dB. On 14MHz CW, signals were basically the same or within an S-point of each other while listening to a CWops test (CWT). I think the trick when running low power into a compromise antenna is to aim for the loudest stations – you stand more chance of working them! With frequencies higher than 14MHz you should remove the loading coil and just adjust the length of the telescopic whip.

I managed to get the following results:

18.100MHz 1.8:1
21.225MHz 2.5:1
24.900MHz 2.9:1
28.500MHz 1.8:1

There wasn't a lot of activity on 18MHz, but I worked SV1EKI in Greece, and heard JA8LGL in Japan and PZ5RA in Surinam on FT8. On 21MHz, Indonesia, Thailand, Israel and Japan were heard, but couldn't be worked with 10W. It probably pays to make measurements of the whip length where the SWR is the lowest for different frequencies.

In conclusion

The JPC-12 might suit a SOTA (Summits on the Air) operator who wants to work as many bands as possible with one antenna. It might also suit someone who hasn't got a lot of space as it could be quickly rolled out for a contest and then taken down again. Both the JPC-7 and JPC-12 worked better on the higher bands than 40m, but that's just question of its size – as they say, "you canna change the laws of physics!"

The JPC-12 vertical antenna costs £199.96. Currently, the antenna also comes with 10 meters of Messi and Paolini Ultraflex 7 SAHARA (white) coax, fitted with two high quality M&P PL–259s, which is worth £52.95.

My thanks to Martin Lynch and Sons for the loan of the antenna.